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STANDARD PRACTICES IN TEACHING

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STANDARD PRACTICES IN TEACHING

A SUMMARY OF THE STANDARDS GENERALLY
RECOGNIZED AS GOVERNING GOOD PRACTICE
IN TYPICAL TEACHING PROCEDURES

BY

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PREFACE

The following chapters aim to present in a terse, summary form the standards that should govern various procedures in teaching in so far as there is general agreement upon these standards among competent students of the problem, competent teachers in service, and particularly among those who advocate this or that procedure.

The treatment is frankly preceptive — at the risk, perhaps, of seeming at times to be dogmatic, perhaps even pedantic! This is in the interest of clearness and brevity but not, we think, with any sacrifice of truth and service.

Unfortunately, comparatively few standards in teaching have been firmly established by controlled experiment; hence the persistent need of using qualifying words and phrases: “perhaps,” “probably,” “most students of the problem believe . . .,” and the like. The standards have been assembled from a careful analysis of the literature dealing with the art of teaching.

It is scarcely necessary to say that one cannot learn to teach merely by reading books about teaching, but such books may suggest to the beginner some of the

lessons that have been learned in the long evolution of a very complicated art. The present volume aims to do this as briefly and compactly as possible.

It should be said, too, that not all of the procedures discussed in this book would be acceptable to all "schools" of educational theory. Persons disapproving any procedure will find it not impossible, we trust, to skip the chapter or chapters involved. The writers of the book are fairly eclectic in that they believe every procedure discussed to be of value in certain teaching situations.

The writers are deeply grateful to Dr. Henry C. Morrison for his kindness in reviewing Chapter XII, "Teaching Large Units." They also acknowledge their indebtedness to Miss Louellen Remmy who rendered invaluable services in preparing the manuscript for publication.

W. C. B.
M. E. M.

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STANDARD PRACTICES IN TEACHING

CHAPTER I

THE SUCCESSFUL TEACHER

Success means different things to different people. Some measure success by the volume of worldly goods that one manages to accumulate — and keep. Others think of the successful person as one who achieves and holds a place in the public eye. Others, looking deeper, find the measure of success in the influence for good that one exerts — irrespective of material reward or public renown.

It is the privilege of the teacher to strive toward this third type of success. The fundamental standard of a teacher's success is the improvement of those who come under his or her influence. To do passing well each day's work is to meet the first condition of success in teaching. Success here depends in large part upon one's personality, one's mastery of one's teaching materials, one's sympathetic understanding of the learner's difficulties, one's skill in overcoming these difficulties; but success is often conditioned by what might seem at

first glance to be extraneous factors: one's reputation in the community, one's relationships with fellow workers, one's general attitude toward life and its problems. There are many little, seemingly trivial, things that one may do or leave undone which often spell the difference between success and failure because they influence in a powerful way the effectiveness of one's teaching. This book will take account of some of these apparently little things as well as of some of the obviously big things in the work of education — for as William Lyon Phelps has said, "Nothing is too minute or trivial that concerns the great art of teaching."

1. The importance of broad scholarship. It is generally agreed that all teachers should have a broad outlook on life and a rich cultural background; the wider one's range of actual knowledge, it is believed, the better teacher one is likely to be, even of a single subject and even of very young learners. Breadth of outlook and richness of culture should not be conceived of exclusively in bookish terms — although books are among the most important things in this world of ours. An acquaintance with life in the concrete, gained if possible through learning at first hand some of the typical ways in which people live and work, the motives that animate them, their recreations, their troubles and trials, would be an important asset in the professional equipment of every teacher. In addition to scholarship thus broadly conceived, the teacher has a special need for extensive, thoroughgoing, and meticulously

accurate knowledge in the subject matter which constitutes his chief "stock-in-trade" as a teacher.

These statements may sound like a "counsel of perfection," for only a mythical human paragon could realize in full the ideals that they suggest. It is a characteristic of the most dynamic ideals, however, that they are stars to which we hitch our wagons. Even though they may be out of human reach, every little step toward them is a step upward.

2. The ideal of continuous growth. It is safe to say that the successful teacher never stops learning more about his work. He continues his study through serious reflection upon his problems, through observing what other teachers do, through reading, and through in-service courses pursued in colleges and universities. It is well to form the habit of reading systematically as they come from the press the professional and technical journals in one's special field, for educational problems are being investigated far more extensively than ever before and with increasingly improved methods of research. There are educational magazines of general interest such as *The Journal of the National Education Association* and *School and Society*; there are magazines of particular interest to teachers of young children including *Childhood Education* and *The Grade Teacher*. Among the many magazines for the elementary-school teacher are *The Elementary School Journal* and *The Instructor*; for high-school teachers one finds *The School Review* and *Junior-Senior High*

School Clearing House; for the teachers'-college faculty there is *Educational Administration and Supervision*. Then there are magazines for teachers of special subjects including *The English Journal* (High School Edition), *The Mathematics Teacher*, *The Journal of Educational Psychology*, and many others. The best way to assure yourself that you will read these magazines is to subscribe for them. Every teacher should subscribe for one educational magazine of general interest and for one or more in his field of special interest. What one pays for one is likely to use. Although it is desirable for all schools and libraries to have the leading educational periodicals, often the teacher will wish to underscore the important points, and to clip and file for future use some of the articles. This he cannot do if the magazines are not his property. It is well also to keep in touch with current national and world affairs by regularly reading two or more of the weekly journals that comment on current happenings. It is suggested that these means of "keeping up to date" be regarded as essential phases of one's professional life — as regular features of the "day's work."

3. Be flexible. In the art of teaching, there are few rules to which one can rigidly adhere. To be flexible does not mean to be indecisive or always in a state of neutrality. There is no place in the school situation, however, for the unadjustable teacher. One should be ready to meet new problems as they arise.

It is well to have a plan for each day's work, but this should be an adjustable plan. Although many teachers are more successful with some methods than with others, all should be willing to test proposed procedures that seem promising. Pupils should take for granted the need of faithful preparation for their work, but the teacher must be flexible enough to recognize and allow for legitimate causes of unpreparedness. Programs for the work of the day, the week, the term, and the year may be formulated "in advance"; but such programs should be looked upon as provisional and, as the railroad time-tables put it, "subject to change without notice."

4. Be your own most severe critic. A teacher who is his own most severe critic has slight cause to be disturbed by supervision or by school visitors. To be thoroughly "natural" or unembarrassed when one's work is under scrutiny is not an easy art to learn, but to be objectively critical of one's own efforts at all times is likely to help one in its mastery.

5. Experiment. Dr. B. R. Buckingham¹ urges every teacher to be a research worker. There are some problems of teaching and learning that can be studied experimentally in the classroom by the teacher himself — such as comparison of one method of teaching with another in securing certain desired learnings. One should not think of an "experiment" merely as doing something in new and untried ways. Real experi-

¹ BUCKINGHAM, B. R. — *Research in Education*; Ginn, Boston, 1926.

mentation, in education as elsewhere, means a comparison of two different procedures in such a way that, in so far as possible, all other factors that might affect the outcomes are so controlled that their influence is the same in both procedures. An intelligent daring to do things in a new way is a prime condition of progress, but even blind conformity is several shades better than stupid or lazy nonconformity.

6. The scientific attitude is an open-minded attitude. In teaching, as in other fields of endeavor, one should strive to avoid getting into a rut and becoming obtuse to new ideas. Some one has said that open-mindedness is a virtue provided that one's mind is open at both ends — capable not only of selection but of rejection. Sometimes, but not always, a practice survives or persists because of its sheer merit; but the fact that a practice has survived does not in itself establish the merit of the practice. In similar fashion, a proposed reform may represent real progress; but the fact that it is new does not in itself prove that the practice is in the direction of progress.

7. Be intellectually honest. If a learner asks a question that you cannot answer, say frankly that you do not know, but that you will try to find the answer; or say frankly that you do not know but suggest where the answer may be found and ask the learner to find it and then enlighten his fellow learners, including the teacher. A confession, even of ignorance, is good for the soul — and while too many confessions of ignorance

may not be good for one's reputation, it is better to risk this damage than to become known as a "bluffer."

8. Vary your teaching procedures. It is well not to be a slave to any one teaching procedure. Many teachers find certain methods of teaching difficult, while they excel in one or two procedures. If a fair degree of expertness can be attained in several different types of teaching, all the better. (See Chapters VIII through XVI for discussions of standard teaching methods.)

9. Insist upon thoroughness. A defect frequently charged against American schools is that they do not encourage thoroughness of mastery. This has led to a movement toward laying greater emphasis upon a type of teaching and learning that will promote real mastery. Dr. H. C. Morrison's proposals, discussed in Chapter XII, are important in this connection, especially the conception of thoroughness which he sets forth so clearly. (See *The Practice of Teaching in the Secondary School*, The University of Chicago Press, 2d edition, 1930.)

10. The success of any procedure or method depends upon its results in actual practice, not upon its theoretical virtues. Some methods are primarily designed to develop habits and skills, whereas others are better adapted to teaching "content" material, thus broadening the learner's horizon not only by supplying valuable information but more fundamentally through the development of new and broader meanings. Still others aim to develop dynamic ideals and appreciative attitudes. The successful teacher is skillful in selecting the pro-

cedure that is most likely to secure the desired outcomes — and then makes sure that these outcomes are actually achieved. This again is a counsel of perfection, reflecting an ideal to be worked toward. There are some very desirable outcomes of teaching and learning that are not readily discernible, much less actually measurable by tests now available.

11. Use textbooks intelligently. To use a textbook intelligently is to supplement it (wherever needed) with additional facts, illustrations, and applications, and especially to present other points of view if the author fails to do so. The use of two or more textbooks for a single course often gives opportunity for problem work looking toward an explanation of differences between or among texts. References to other books and to periodical literature related to the textbook materials and assigned to different members of the group often form an excellent basis for “socialized” recitations. (See Chapter VII.)

12. Master routine. In beginning one’s work in a new classroom or with a new class it is advisable to plan in advance methods of distributing and collecting materials, caring for the coming and going of pupils, and looking after the classroom housekeeping and book-keeping (checking papers, recording grades, making out reports). Once these things are determined, the pupils may be both consulted and instructed with regard to the part they are to have in carrying on the routine. With a little practice, routine actions will consume a

minimum of time and cause a minimum of confusion. (Chapter III gives detailed suggestions on this problem and related problems.)

13. Make discipline conspicuous by its absence.

As a rule, all evidence of "discipline" is absent in the classrooms of the best teachers. Interested and enthusiastic teachers are likely to be the most successful in stimulating effort on the part of learners and in developing an attitude on the part of the class that is distinctly unfavorable to disorder. In such classrooms good order is the mode — the fashion. But do not be discouraged if this ideal is not realized in a day or a week. The development of a wholesome school morale usually takes some time. Once achieved it pays large dividends and may even continue as a school tradition through several pupil-generations.

14. Strive to develop teaching "insights." To teach well, one must be sensitive to the reactions of the learners, quick to detect evidences of misunderstanding or inattention, dexterous in devising appropriate assignments and framing pertinent questions, on the alert to note where an illustration will give point and meaning to a lesson, and resourceful in illustrations and examples. These are qualities that may be expected to grow with experience. Careful and conscientious planning for each day's work will help. (Chapter IV deals with planning.)

15. Cultivate professional ideals and attitudes. The consciousness that one is a member of a great profession

and engaged in a work of far-reaching significance gives zest to the activities of teaching and sensitizes one to its responsibilities. To understand how education has developed and to know the rôle that it plays in modern civilization are important bases of this attitude. The outstanding characteristic of enlightened nations as contrasted with backward nations is that the former have embraced the policy of the "universal school." The best single index of a nation's status in contemporary civilization is the proportion of its adult population that can "read, write, and cipher." Probably the best present index of a nation's future status is the proportion of the population of school age now attending school.

16. When you make assignments, make good assignments. We can be a bit dogmatic here, for every pertinent controlled experiment so far reported justifies the statement that whenever lessons are well assigned, the teacher does some of his most effective teaching. (Chapter V discusses assignments.)

17. Develop skill in questioning. Next to the assignment, there is perhaps¹ no one element in teaching that is more significant than the teacher's questioning. Through skillful questioning the teacher directs the learners' thinking, stimulates an interest in problems and projects, and points out the places where learning has been well or poorly done. Teachers who have not acquired skill in questioning are likely to talk too much,

¹ Notice that we say "perhaps" — not "certainly" nor even "probably."

and to teach "over the heads" of their pupils. (The characteristics of good questions are discussed in Chapter VII.)

18. Teach pupils to study. It is important that the teacher investigate the study habits of the learners and substitute good for bad habits. One of the most valuable abilities that can be developed in one's pupils is the art of using books effectively. The intellectual growth of pupils after they leave school is probably conditioned in large part by study habits acquired in school. (Chapter VI gives suggestions for directing study.)

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CHAPTER II

THE TEACHER'S PERSONALITY

Studies of success and failure in the work of teaching indicate very clearly that a good "teaching personality" is a most important factor in success. Failure in teaching — at least the degree of failure that leads to dismissal — seems to be due far more frequently to weaknesses in "personality traits" than to all other causes combined. While it may be true that American education depends too much on the personality of the teacher to insure order and industry on the part of the learner, and places too little emphasis upon such impersonal imperatives as a sense of duty, respect for law and order, and pride in good workmanship, the fact remains that the teacher who is weak on the side of personality is very seriously handicapped.

1. Cultivate a sense of humor. In most lists of desirable traits which teachers should possess, a keen sense of humor ranks high. Good-natured humor often relieves the tension that is bound to arise, at least occasionally, whenever people work together. To be able to take a joke is quite as necessary as to be able to make one. If pupils are given an opportunity for a hearty laugh now and then, they will be less prone to

giggle and laugh at nothing. Every teacher should take the day's work seriously — but no one, least of all a teacher, should take himself or herself *too* seriously.

2. The importance of a sympathetic understanding of the learner. Another important trait in teaching is sympathy. One may take it for granted that no pupil purposely fails in his work. No pupil enjoys being at the foot of the class, wearing poor clothes, or speaking with a foreign accent. If he has lost his self-respect, help him to regain it. A teacher often wins the respect and confidence of a pupil by listening sympathetically to his problems. To many persons, these problems may seem trivial; but they are not trivial to the learner, and one must know what they are if one is to get the learner's point of view. To be a good listener is a real asset to the teacher and pretty close to a prime virtue in every one who lives and works with others.

3. Cultivate self-control. A teacher who is unable to control himself is not likely to develop self-control in others. Self-possession on the part of the teacher is not only essential to an orderly school; it sets a most desirable standard for the pupils to emulate. Pupils become restless and irritable under a teacher who lacks poise. In addition, they often tend to "lie out of" their difficulties rather than face emergencies with at least external calm and strive to think rather than feel when a crisis arises. Effort to think clearly is the best known way to calm an incipient emotional storm. Count ten before making an angry retort.

4. Be just in your treatment of your pupils. Children and adolescents are very quick to note partiality on the part of their teacher and a sense of fairness is a most essential qualification for teaching. When pupils or students¹ are asked to list the more desirable traits in their teachers, fairness always ranks very high. Give the pupil a chance to tell his side of the story.

It is often difficult to refrain from favoring the bright pupil, the attractive pupil, and the pupil whose parents are influential, just as it is easy to dislike the dull pupil, the unattractive pupil, or the frequent offender. One may not be able to control one's likes and dislikes, but one can learn to control the expression of one's feelings. It is humanly (or inhumanly !) hard not to yield to the influence of influential people who ask favors for their own or their friends' children, and more than one teacher has lost his job by unswerving loyalty to fairness and justice. But he has saved his self-respect — a far more precious possession, if you have the courage to look at it in that way.

5. Be consistent. Closely related to justice is consistency. One of the traits most conducive to an orderly school is consistency in the requests or demands that one makes. It is obviously poor practice for a

¹ It is customary to speak of learners in elementary and secondary schools as "pupils," reserving the term, "students," for those enrolled in institutions of collegiate grade. Just why, we do not know, but on inconsequential matters we incline toward "conformity"; there are too many important controversial issues to warrant one in quarreling over little things.

teacher to ignore unsocial conduct to-day and punish a pupil severely for engaging in the same activity to-morrow — and to reverse the process is just as bad. But do not make consistency a cloak for injustice. If you find that you made a mistake the first time, frankly acknowledge it and eat a bit of humble pie. This, too, is good for the soul — occasionally.

6. Learn to create enthusiasm if your supply runs out. Enthusiasm is one of the most important of the personality traits which make up the successful teacher's equipment. A teacher who loves his work and is in good health is likely to be enthusiastic. Such a teacher inspires his pupils to sustained effort and accomplishment. If a teacher does not believe in the value of what he is teaching he can hardly expect the learners to be convinced of its importance. A prime cause of a lack of enthusiasm is insufficient preparation. Teaching from old, cold outlines is likely to be a drab performance. To go over the material to be taught, to look up new data and devise new means of presenting them, to plan new and ingenious problems and activities generally bespeaks an enthusiastic teacher. A famous teacher, when asked how he kept up his enthusiasm in elementary courses that he repeated term after term, bluntly replied, "When I have no enthusiasm for my work I simply sit down and create some."

Do not mistake mere excitement, however, for enthusiasm. The enthusiastic teacher, while very much alive, may be as quiet as a church mouse.

7. Cheerfulness is a prime factor. Quite obviously, all teachers should cultivate a spirit of optimism. This seems to be the veriest of platitudes — and yet, over and over again, men and women demonstrate a human ability to appear cheerful even when they have very good reasons to be depressed. They have too much consideration for others to ask or expect them to share their inward gloom — and not infrequently their efforts not to depress others go a long way toward mitigating their own unhappiness.

8. Keep radiantly healthy. Evidences of vigor and vitality are important assets of the teacher. It is true that some teachers who do not enjoy good health do good work, but it is highly probable that they would do better work if their health were restored. It is said that teachers suffer from laryngitis more than from any other one disease. This may be because many teachers talk too much. Sufficient exercise in the out-of-doors and sufficient rest will usually enable one to start the school day refreshed and confident. Since teachers are exposed to “children’s diseases” more than most adult workers, they should be particularly careful to keep their hands away from their faces while working with the pupils’ materials. This is a good rule to follow anyway and at all times — of course with appropriate and intelligent exceptions.

9. Maintain an attractive personal appearance. In the studies of the “personality traits” that are important in teaching, personal appearance has been found

to be particularly significant. This does not mean that "good looks" are essential, for many plain teachers succeed passing well. The important elements in a good appearance seem to be personal cleanliness and neatness and appropriateness in dress. The teacher will do well to dress inconspicuously — certainly not flashily — and to be neither too old-fashioned nor too new-fashioned, too conservative nor yet too radical. In this connection one can do no better than to quote Polonius's advice to Laertes, for among all intuitive psychologists, Shakespeare still has first place:

"Costly thy habit as thy purse can buy,
But not expressed in fancy; rich, not gaudy:
For the apparel oft proclaims the man."

What is called "good taste" is usually caught rather than taught — and the development of good taste is surely an important function of education.

10. Be patient. Patience is a prime virtue in teaching and fortunately it is a virtue that can usually be cultivated. But one must be discriminating in the practice of this virtue. It is discouraging to pupils to have a teacher so impatient that, if the correct response to a question is not made at once, either the teacher makes it or has another pupil do so. Yet the answer to 3×2 should be immediate. This is not a matter of reasoning but a matter of habit. On the other hand, in answering the question, "Why has the United States many more miles of railroads than Europe although it

is smaller in area? ” some pupils will be able to give several reasons at once, while others will get no suggestions from the question. If we let A stand for the question and Z for the answer or answers, the brightest learners may be able to jump from A to Z ; others will go from A to M and then to Z , M representing a link suggested by A and leading to Z ; others will need many links and their reasoning may be represented by $A H P W Z$; some will need guidance through each step $A B C D E F . . .$ to Z ; even then, in an “unselected ” group, there may be a few who cannot “get ” the answer or grasp the connection. Skillful questioning, however, will often lead even the slow learners to the desired goal.

A well known normal-school president preferred to recruit students from the middle third of the high-school graduates (in scholarship ratings) rather than from the upper third because he believed that the most brilliant minds are likely to be impatient with immature or slow thinking on the part of the learners. Having had little difficulty themselves in making inferences these brightest young people often fail to see wherein the pupils' difficulties lie. One of the best first-grade teachers in one of our large cities is a young woman who had difficulties in school work herself. She has abundant patience with her pupils because she knows from experience what their problems are.

It does not necessarily follow, however, that the greater the intelligence the more impatient and the less

successful the teacher. A high degree of intelligence is not necessarily accompanied by impatience with the less generously endowed, for a bright, keen mind may find a real challenge in the problem of making truth clear to a mind of average or below-average ability.

11. Be confident. One way to build up self-confidence is to be prepared. An instructor once told his class that personality is largely confidence and that confidence is the result of preparedness. Said he, by way of illustration, "Were I to teach a sixth-grade arithmetic lesson to-morrow, I should have plenty of personality; but if I were to sing at the Metropolitan Opera House to-night, I should have no personality whatsoever."

Self-confidence must not be confused with conceit. To overestimate one's self may be as disastrous as to underestimate one's ability.

12. Develop a good teaching voice. A good "teaching voice" is an almost invaluable asset. The best voice for classroom teaching is one that is clear and pleasantly toned, fairly even in general pitch and yet capable of modulation and "coloring" to express different shades of meaning and emphasis. The principal evils to be avoided or corrected are: (1) the shrill, high-pitched, rasping voice; (2) the unnecessarily loud or "noisy" voice; (3) the inarticulate voice which fails to enunciate distinctly; (4) the thin, feeble voice which lacks vigor and force; and (5) the monotonous, colorless voice which lulls the listener to somnolence

through a monotonous lack of inflection. Speaking too loudly, too rapidly, and indistinctly are common teaching faults. The "noisy" voice is especially unfortunate, for, by suggestion, it almost always gives rise to noise and confusion in the classroom. If there are signs of incipient disorder among your pupils try the expedient of lowering your voice. This simple remedy often works miracles.

The feeble voice, the inarticulate voice, and the monotonous voice are usually amenable to treatment through appropriate exercises, a schedule of which the voice specialist in the normal school or teachers' college can readily prescribe. Attention to this apparently small detail of the teachers' equipment may make all the difference between failure and success.

13. Avoid misusing your personality. The teacher who has a strong and charming personality must guard against depending solely upon it to secure class control and the effort essential to real learning. The results may seem to be most commendable as long as the personal influence of the teacher remains to sustain the good order and the interest; their disastrous character is revealed only when the influence is withdrawn — when the teacher leaves the school or when the pupils pass on to a higher grade. When that time comes, it is clear enough that the "strong personality" of the teacher has actually weakened the pupils. They have become so thoroughly dependent upon this stimulus that they are unable to stand alone. The interest

that they displayed in their lessons turns out to be only a borrowed interest and their good order is seen to have been purchased by smiles and kind words. The very ease with which one may misuse personal influence is likely to blind one to an inexorable criterion of true success in teaching, namely, the development of an attitude upon the part of one's pupils that will make them better able to "carry on" without guidance. For the teacher to boast that he has taught so well that those who follow him simply cannot "control" the pupils or "interest" them is not only in bad taste — it is to pay himself a very poor compliment as a teacher.

14. Many personality traits are amenable to improvement. Because one does not possess all of the traits that make up a good teaching personality, one should not be discouraged. There is encouraging evidence that many if not most of these traits can be developed by one who really wishes to have them. The first requisite is a desire to improve; merely to follow the "rules" will avail little. Once you have decided upon an "improvement campaign," it is a good plan to rate yourself in the desirable traits — that is, note whether you are above the average, below the average, or just about average in respect of sympathy, sense of humor, neatness, adaptability, and the like. Then note the traits in which you seem to be weakest. Associate with persons who are strong in these traits and seek opportunities for the exercising of the traits. Recognition of improvement by one's self and others

may help to strengthen the weakest traits in their initial stages of development. Chapter IX of Dr. W. W. Charters's *The Teaching of Ideals* gives very helpful suggestions regarding the development of personal traits. Charters and Waples in *The Commonwealth Teacher-Training Study* list the traits that have been found to be important in the different branches of the teaching service — primary grades, intermediate grades, the junior high school, and others.

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CHAPTER III

CLASS MANAGEMENT

The development of universal education — sending to school “all the children of all the people” — may have done something to insure a measure of social order in the countries that have embraced the ideal of the universal school. Certain it is that in nearly all of these countries the expansion of the universal school has been paralleled by a reduction in violence and crime and an increased capacity for self-control on the part of the masses. It would seem to be significant that no such country has had a serious civil war or a revolution accompanied by serious, long-continued violence since the leaven of the universal school has had a chance to operate, while violent disturbances have been far from infrequent among the nations that have lacked this apparently effective basis of social order. One may reason from these facts to the hypothesis that an important function of the school is not only to provide training and instruction in the usual school subjects, but also to accustom the young of each generation to orderly ways of living together and working together. If our reasoning be valid, then a large im-

portance attaches to the problems discussed in this chapter.

1. Start right. To make the right start is to go a long way toward a successful conclusion. This is true in most undertakings and especially in the work of teaching boys and girls. Children and adolescents are quick to "size up" the new teacher. If he knows what he is about from the very start and is ready to begin the work of the school without delay, the pupils will know that he "means business" and will waste no time in settling down to work themselves. Teachers will do well to report at their respective schools a day or two before classes begin in order that they may care for supplies, prepare programs, arrange at least a provisional seating plan, and attend to all routine matters possible before the pupils appear. In this way initial confusion and disorder may be reduced to a minimum.

2. Routinize mechanical matters. It is generally agreed that the purely mechanical matters of teaching and school "housekeeping" should be reduced as early as possible to routine procedures that will insure system and order. Entering and leaving the classroom and building, disposing of wraps, distributing and collecting materials, fire drills, and the like should become matters of automatic response. Caring for the lighting and temperature of the room should also be provided for by routine procedures which never permit these matters to be neglected. Pupils may be delegated to help

in some of these routine tasks. As in all habit formation, it is desirable that a satisfactory procedure be thought out ahead of time, talked over with the pupils, modified if desirable by their suggestions, and then practiced until the needed routine has been established on a basis of fairly unvarying habit.

3. Assign definite seats to pupils. It is usually desirable to assign definite seats to pupils. Some teachers are willing to permit pupils to make their own choice but require them to adhere to the choice once it has been made. With young children, however, some guidance is needed in order that the shorter children and those having eye or ear handicaps may be seated near the front of the room. Movable furniture is now fairly general and the pupils frequently change their positions during the day; but when pupils are assigned places for the opening period, the teacher or class secretary can take the attendance easily and quickly. Some teachers meet several classes a day and each class but a few times a week; a regular seating arrangement helps such teachers to learn the names of the pupils.

4. Make the first lesson count. The first lesson of the new term should contribute definitely to the term's work, hence no time should be lost in getting started. Some teachers spend the first day in a review of the work of the preceding term. Others use the initial lesson for introducing the new work. Whatever one does, the first day's work should be carefully planned.

The learners are likely to judge both the teacher and the course by the first sample.

5. Pupils like good order. Be assured that pupils like good order once they know what it means. By contrast they dislike disorder and confusion. Many studies have revealed the fact that elementary-school and high-school pupils and college students consider as one of the most desirable qualifications of a teacher the ability to control the class. It is not true, as some would have us think, that pupils are unhappy in schools where system and order prevail. Many pupils, however, are unhappy in schools where matters are at sixes and sevens and where no one seems to know what is expected of him. No matter how much the pupils may come to govern themselves, the teacher cannot actually delegate the authority vested in him by law. He may use one of the many schemes for the participation of the learners in the government of the school, but back of and through them all is the teacher's moral and legal responsibility for insuring order. It is reasonable to believe, pending convincing evidence to the contrary, that an orderly and well-governed school constitutes a favorable environment for the development of self-discipline.

6. Avoid threats. Many a teacher starts on the road to failure when he makes threats that he cannot or will not carry out. Pupils soon learn that this teacher's threats mean nothing and so pay no attention to them. Do not say to a pupil, "If you are late again,

I'll send for your father," unless you are in a position not only to send for but actually to get the father to come to the school.

7. View disciplinary problems objectively. Regard unsocial acts of the pupils as opportunities for real teaching — as a challenge to your skill and insight. This will help you amazingly in preserving an objective attitude. A certain fourth-grade teacher who was being considered for a position as critic teacher in a normal school was visited by the director of training. On entering the room, the visitor was greeted with angry words from the teacher as she berated a nervous lad for spilling his ink and soiling his blotter and other articles upon his desk. It would be rare indeed for a pupil deliberately to spill ink in order to invite the teacher's displeasure. If the teacher had treated the incident as purely accidental and gone on with the school work, losing as little time as possible, it would have been an excellent lesson in self-control for the pupils. Had the teacher exhibited self-control in this emergency, it is altogether likely that she would not have lost the promotion which she desired.

8. Commendation is more effective than punishment. The burden of the findings of psychological investigations is that reward surpasses punishment as a teacher. In other words, we learn better to refrain from wrongdoing by being commended for right doing and for not engaging in undesirable conduct than by being punished for misbehavior. It would be unfortunate, however,

if a learner gained the notion that he must always be patted on the back for doing the right thing. Always to expect this is always to remain a child.

9. Be reasonable in your commands concerning conduct. Do not insist upon standards of conduct for which there is no justification. A teacher whom we recently observed required the pupils to put their hands behind their backs after finishing a problem in arithmetic. Upon being asked the reason for this demand the teacher said that it taught the pupils not to "play with things." Pupils are not likely to *learn* not to play with trinkets during an arithmetic lesson by keeping their hands behind them, although they may be prevented from so doing by complying with the demand.

10. The busy pupil seldom gets into mischief. There is considerable truth in the statement that "Satan finds some evil work for idle hands to do." Well-employed pupils do not often get into mischief. The term "busy work" was once used to designate activities desired by the teacher to keep children "out of mischief." It is now in disrepute because it often referred to activities that had no real educative value. A well-ordered program of learning activities is a powerful preventive of disorder.

11. Avoid assigning school tasks as penalties. It is a cardinal rule of school management never to assign school work as a punishment. As illustrations of bad practice in teaching, one may cite requiring a pupil as a penalty for misconduct to write his spelling words

ten times each, to copy the "seven" table ten times, or to work ten arithmetic problems.

12. See that the punishment fits the wrongdoing. It is generally unwise to have a set penalty for each infringement of a rule. In general the *cause* of the unsocial behavior rather than the act itself should determine the penalty.

13. The "fashion" of good order. From the point of view of discipline, the most successful teachers are those who succeed in developing among their pupils what may be called a "fashion" of order, interest, and industry. These things are taken for granted, so to speak, by the learners. (See Item 13, Chapter I.)

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CHAPTER IV

PLANNING

In how far should each day's work be planned in advance by the teacher? Students of educational theory and practice differ widely in the answers that they would give to this question. One important and influential group holds that anything in the way of a prearranged program that is to be "imposed" by the teacher upon a group of learners defeats the true ends of education. All learning activities, according to the teachings of this group, should take their cue from the immediate interests and purposes of the learner, and inasmuch as these cannot be predicted in advance, preparation is out of the question. Other students of the problem, while agreeing that learning tasks should not be "imposed," believe that the skillful teacher can lead the learners to "purpose" to do those things that in his judgment they ought to do. Under this condition, the planning of lessons in advance is a legitimate practice; indeed the steps that one will take in order to bring about this happy "jumping together" of the teacher's wishes and the learners' desires will probably succeed best if worked out in advance. Still other

students of the problem believe that unplanned teaching will often, perhaps almost always, result in a minimum of effective learning. While holding that good teaching must always stimulate aggressive and meaningful learning, this group would regard a complete or even an extensive dependence upon the immediate interests of the learner in determining the character and course of learning activities as an injustice to the learner himself; and while granting that prearranged plans must frequently be rearranged in the process of carrying them out, this group would insist that the definite and careful planning of each day's work is indispensable to the best teaching. The writers of this book, pending further evidence, align themselves with this last group.

1. What planning involves. Planning means both careful study of the materials that are to be taught and thoughtful consideration of the course that the teaching will follow. It should center about a sincere effort to make the work meaningful to every learner.

2. Coördinate the assignment and the class work through lesson planning. Frequently the criticism is made that teachers make long assignments and then fail to check or test the pupils' preparation. Another common criticism made by learners is that the class work never catches up with the assignment but is frequently several lessons behind. Although "over-learning" and review are presumably desirable practices, pupils should expect that the preparation for each class period will be pertinent to the work done during

the period. Adequate lesson planning will link the assignment with the class work.

Even if the teacher assigns a book to be read and allows the pupils two or three weeks in which to complete the work, using the class time to orient the learners in the course they are beginning, it is well at the outset to divide the book into sections and give a five-minute test during each class period on the sections which should have been read up to that time. If the book be one that may be covered by rapid reading in a few sittings closely following one another, it is well to prepare a few general questions covering the entire book in a five-minute test. This will give the learner an incentive to do the reading in the most effective way. As learners acquire the ability efficiently to "budget" their own time, these "checks" may be reduced in frequency.

3. Plan work so as to use the class time economically.

Class periods are short enough at best when it comes to accomplishing all that the school should do, and if one neglects to make definite plans for using the period judiciously, much time is likely to be wasted. It is desirable for the novice to indicate on his plan the time-allotment for the several parts of the lesson. This will provide against the necessity, for example, of giving the assignment after the close of the period as is often done.

4. Teaching the same grade or course several times does not make daily planning less important. The fact

that one has taught the same grade or course several times, far from justifying one in neglecting daily preparation, in a very real sense makes such preparation even more necessary; for under this condition it is especially important to see the materials in a new way and to avoid that insidious enemy of good teaching known as "getting into a rut." Then, too, if the work is to be unified, each new plan as a rule should grow out of the lesson just taught. Effective learning is greatly assisted by keeping well organized and unified the materials that are being learned. Daily preparation by the teacher is one means toward this end.

5. Organize the course in terms of large units of work. In order to insure unity it is well to organize each course in terms of large units of work. Then in the daily planning these units may be broken up into smaller parts. In doing this, however, each lesson should have a unity of its own as well as form an integral part of a larger whole. (See Chapter XII.)

6. In planning, be cognizant of the pupils' experiences. It is a cardinal rule of good teaching always to build upon the experience of the learner. Plan lessons so that the work proceeds from what is already known by the learner to what you wish to teach him. Find something that the pupil has already learned or some experience that he has had and relate the new material to this.

7. Include in the plan a question or two for the brief daily review. In lessons that are sequential in the

sense that each grows out of its predecessor, it is well to begin the lesson with a question or two on the preceding lesson. These questions may well be written into the plan to the end not only that they will not be forgotten but also that they may be well-considered questions. One is less likely to ask time-wasting questions if one formulates them in advance.

8. Write into the plan a summary of the material covered in the lesson. The pupils may summarize the work or it may be that the teacher will do this. In either case, teachers will do well to write into their plans a summarizing paragraph which will include the important points that are to be covered during the lesson. The summary should be closely related to the objectives of the lesson. One will not in most instances follow one's plan letter by letter, and the written summary will help to keep one from digressing too far afield and enable one to compare expected with actual accomplishment.

9. Include a definite assignment in each lesson plan. Although a teacher may assign work in larger units than that covered in a single class period, some definite announcement should usually be made concerning the preparation that the learners will be expected to undertake for the next class meeting. The neglect of this all-important part of the lesson or the danger of giving the assignment in a hurried, slipshod fashion may be more readily guarded against by writing out the assignment beforehand or at least making notes suggestive

of what will be done in making the assignment. (See Chapter V.)

10. Include in the plan the most important questions you wish to ask. Good questioning is a very important factor in successful teaching and only the occasional teacher can ask good questions spontaneously. It is most advisable for the novice (and will not hurt the experienced teacher) to work out some good questions in advance. (See Chapter VII.)

11. Provide space at the close of the plan for your criticisms. After the lesson is over it is well to add to the plan some brief notes as to the way in which the plan worked. These criticisms will aid in planning future lessons.

12. Make detailed plans at least until you have considerable experience. It is recommended that the novice make lesson plans of a rather specific and detailed type. In the case of elementary-school teachers there may well be a *brief* daily plan for each lesson. Besides this the teacher will find it helpful to make a *detailed* plan for at least one of the lessons or activities of the day, preferably for that type of lesson which he teaches the least successfully. Successful teachers do not neglect lesson planning, although no doubt as they gain experience their plans contain less detail than was necessary at the outset and sometimes they are thought out but not written out.

13. File your plans. It is well to file plans, especially those containing notes for improving the lessons. It is

not advisable to teach from old plans without revising them. It is better to destroy a plan after using it than to use the same plan year in and year out.

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CHAPTER V

THE ASSIGNMENT

Some students of education regard the assignment as the most important phase of the teacher's work. In other words, these people believe that teachers as a rule do their best teaching in making their assignments. Controlled experiment has also furnished evidence that time and effort given by the teacher to the assignment pay large dividends in terms of the learners' growth and progress. Notwithstanding the fact that books on the art of teaching have emphasized for more than a generation the significance of the assignment, many teachers still limit this process to a bare statement of the number of pages to be "studied" or the number of problems to be solved. The assignment should be conspicuously characterized by real teaching.

1. Whenever possible, plan assignments carefully in advance. Since the assignment is so significant, the planning of the assignment becomes a matter of prime importance. Thoroughly effective assignments can rarely be made spontaneously. It is well to plan in advance how the assignment is to be made, even if the plan may need modification when the time comes to give it. (See Chapter III.)

2. Arouse the learners' interest and effort through the assignment. A most vital function of the assignment is to arouse interest and to stimulate the learners to make a determined, aggressive, and intelligent attack upon the learning task or problem. A good assignment not only directs but also stimulates and inspires effort.

3. Make definite assignments. Learners should be left in no doubt regarding what they are to do. Directions should be stated clearly in simple language. Some good teachers in the intermediate and upper grades have the pupils keep an assignment book in which they note what is to be done. Some, too, find it well to have directions for work given to the learners in mimeographed form. Where this is done it is well to go over the assignment with the class, making any explanations necessary. Few written assignments are so well made that the pupils will be as enthusiastic and clear about preparing the work from merely reading the directions as they will be after the teacher has discussed them. It often happens, too, that assignments prepared far enough ahead to be mimeographed need to be revised in the light of the day's discussions.

4. Indicate how the assigned work may be best attacked. Pupils may be quite clear as regards what they are expected to do and yet use cumbersome, time-wasting methods of reaching the desired end. Training pupils in "methods of work" or the "art of study" is a very important function of good teaching, and the assignment period offers what are probably the best

opportunities for discharging this function. (See Chapter VI.)

5. Suggest methods of checking accomplishment. Whenever possible indicate to the learners a means of testing themselves on the work assigned. If it be spelling, pupils may be encouraged, after studying the words, to write them and then compare them with the words in the spelling list. If a vocabulary of French words is being studied for review purposes, it is a good plan to write the French word on one side of a slip of paper and its English equivalent on the other side. The learner may then test himself by first looking at the French word and thinking of the English equivalent, and then by looking at the English word and thinking of its French equivalent, shuffling the slips frequently so that the vocabulary will not be learned in any fixed order.

6. The best assignments demand thought. Whenever possible, assignments should be thought-provoking. The teacher who makes an assignment like the following is not challenging the thought processes: "Read pages 20-32 in your history." Somewhat better would be the following: "List the characteristics of the life of the Pilgrims. Refer to pages 20-32 in your history for data." Better still would be, "We are going to make some posters depicting early Colonial life. Describe in detail the posters you think we shall need to tell the story. Think of a good title for each poster you describe. The chapter in your history book concerning

the Colonial period will help you. Here are other books from which you can get many ideas."

7. Make assignments so that the new work is related to that already covered. An important function of a good assignment is to insure unity in the learning process. In assigning a specific lesson, its relation to the larger unit upon which the pupils are working should be made clear. Pupils may well be encouraged to search for ways in which the new materials are related to what they have learned in other courses, in their general reading, or in their out-of-school life.

8. Assignments should frequently provide for activities other than reading. For example, in a silent reading lesson the pupils may make drawings to illustrate their interpretation of the word pictures portrayed in what they read. In a lesson in history they may indicate on an outline map the location of the events that they are studying, the routes taken by explorers, or the successive stages of great historical movements such as the westward extension of the American frontier. In geography and arithmetic there are abundant opportunities for the making of graphs and charts based on the data set forth in the text or found in reference readings.

9. The place of maximal and minimal assignments. Unless the members of the class are decidedly homogeneous so far as their ability in a subject is concerned, the teacher may provide for individual differences by

assigning certain learning activities for which all will be held responsible and then providing supplementary activities for those who complete quickly this minimal assignment. The additional work may involve references to supplementary texts or reference books or such activities as are mentioned in the preceding paragraph.

Some teachers find it profitable to give three assignments—one for the slower pupils, one for average pupils, and one for the pupils of superior ability. An illustration of an assignment of this type in literature follows: I. Minimal assignment: (1) Read five of the stories listed in the syllabus. (2) On 3" by 5" cards indicate, with respect to each story, the author, name of book, and page. (3) Indicate briefly the type of story, the time, the place, and the characters, and why you did or did not enjoy the story. II. Average assignment: Complete assignment I. (4) Write a paragraph describing the character you admired most in the stories and tell why you made this choice. (5) Write an imaginary diary of one of the characters over a short period. III. Maximal assignment: Complete assignments I and II. (6) Imagining yourself one of the characters, prepare an original monologue to be given before the class. Your fellow pupils will guess the character that you are impersonating. (7) Prepare a "notice" for each story which you think the publishers might well use to bring the story to the attention of the public through a circular or through newspaper advertising.

10. In assigning work anticipate and clear up the difficulties that are likely to be serious handicaps in learning. It is particularly important to develop in the assignment the meaning of new words. Instead of defining these words in abstract "dictionary terms," every effort should be made to relate them to what the learner already knows and as far as possible to make the meaning clear in terms of the learners' experience. A controlled experiment¹ revealed that, among five different ways in which careful assignments contributed to the improvement of learning, the careful development of meanings made by far the largest contribution.

11. Do not make the assignment too easy. To assign tasks so simple that little thought or effort is required to complete the work is to give pupils the idea that they are merely doing "busy" work. For a third-grade teacher to ask pupils to copy all the words in their reading lesson which begin with the letter *c* is an extreme but not an imaginary instance. The teacher could as easily have asked the pupils to engage in real learning activities such as the following: (1) Find the answers to questions on the lesson already written on the blackboard. (2) Copy the words that describe each character in the story. (3) Write a paragraph telling what part of the story you like best and why.

¹ BRIGGS, D. H., and JORDAN, A. M. — "Influence of the Assignment on Learning," *Journal of Educational Psychology*, vol. xxii, pp. 659 ff. (December, 1931.)

12. On the other hand, avoid discouraging the learner by assigning tasks impossible of accomplishment. Although the assigned work should not be too simple or too easy, it is equally important that it should not be so difficult that the pupils will be "beaten before they begin." Especially to be avoided are assignments too long to be prepared in the time at the disposal of the learner or too difficult for him to prepare without further instruction. To have pupils in a sixth-grade class attempt twenty-five two-step or three-step problems involving large numbers is to court unpreparedness. It is equally futile to assign a series of long-division problems until one is reasonably sure that the pupils know the procedure step by step. Pupils vary widely in their ability to read rapidly. Minimal assignments that involve reading should be such that all pupils can do the reading in the time given to study; further work should be provided for the rapid readers. (See Item 9 above.)

13. Avoid assigning work which necessitates the use of references difficult to procure. Reference books and materials which are involved in the assignment should be readily accessible to the pupils. Cultivate the habit of notifying the school librarian or other librarians regarding books to which pupils are referred. At the same time, pupils should be encouraged to search for related materials in books to which specific references have not been made.

14. Keep pupils interested by varying the type of preparation. No matter how good your favorite type

of assignment is, it is not likely to be so good that it should be used on every occasion to the exclusion of all others. Occasionally it is well to ask older pupils to prepare a summary or an outline of the work covered in a series of lessons. This gives practice in organization. Some teachers find it desirable to have the learners themselves prepare an interesting assignment to cover a certain amount of material. In this way the teacher may learn the types of assignments that pupils like best. It is often desirable in the intermediate and upper grades to have the pupils compare the points of view of two or more authors on the same subject.

15. Make group as well as individual assignments.

It is a highly approved practice to promote coöperation by providing group assignments. This is an important feature of the socialized recitation. (See Chapter IX.) If the teacher wishes to cover a large topic extensively rather than intensively, he may assign various aspects of the topic to groups rather than require all pupils to cover the entire field. For example, a fourth-grade class and its teacher have decided to make a booklet that will tell about the various departments of their city government, such as fire, police, street, health, charities, and the like. The teacher may ask one group or committee, including a chairman and several other members, to find all that they can about the fire department. Through visits to the nearest fire station, through interviews, and through reading published reports, this group will gather the facts. Through

group discussion the facts will be evaluated and organized and a report prepared to be presented to the class. The other groups will work in the same way. The project may well conclude with the preparation of a booklet, "The Government of Our City."

16. Discourage memorization of text material. The teacher should so word assignments that merely memorizing the text will be discouraged. Some learners are prone to learn "by heart" the words of the book, especially in history and geography. The teacher can prevent this by emphasizing in the assignment the importance of studying the lesson in such a way that the pupil will strive to vary the words of the text in his recitation.

17. In classes that meet but two or three times a week give the assignment one week in advance whenever possible. When one's class meets but two or three times a week, it is usually desirable to give the assignment a week in advance to the end that the learners may budget their time to good advantage. A class meets on Tuesday and Wednesday, for example. The chances are that the Wednesday assignment, if made on Tuesday, will not be prepared as well as was the Tuesday assignment which was made almost a week before. Furthermore, some pupils will spend some time over the week-end on their work for the following week, whereas others prefer to work harder during the school week and have their week-ends free. The weekly assignment of work does not prevent the teacher

from altering the assignment slightly in accordance with the work covered during the preceding lesson.

18. Take time to assign the work adequately. Probably the most common mistake made by teachers is to leave too little time in which to make the assignment in a satisfactory manner. For this reason Hall-Quest and others recommend that assignments be made near the beginning of the class period. While this practice is preferable when the work assigned is not much affected by the preceding class work (as in mathematics), it is not always practicable in such subjects as history or geography, in which the class discussions are likely to determine the extent and in some measure the character of the work that should follow. It is especially important in teaching such subjects to reserve sufficient time to make the assignment at the close of the discussion period. Expert teachers find it possible to keep watch of the time almost automatically — with the “tail of the eye,” so to speak — and still give a maximum of attention to the development of the class work.

19. The test of a good assignment. The effectiveness of an assignment will be shown in the recitation or class meeting for discussing the assigned work. If the pupils have bungled their learning and if the teacher must take the recitation time to clear up difficulties, it will be fairly obvious that the preceding assignment period was not well spent. Actual teaching is better given in the assignment period than in the recitation.

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CHAPTER VI

DIRECTING STUDY

The typical "pattern" of classroom procedure in American schools comprises: (1) a period, usually all too brief, for the "assignment" (see Chapter V); (2) a period devoted to individual (now often group) work on the part of the pupils in carrying out directions of the assignment (referred to frequently as the "study" period); and (3) a period given over sometimes to a test on the work assigned, sometimes to a discussion of the assigned work and related topics, often to both (known traditionally as the "recitation" period). This alternation of assignment, independent study, and group discussion seems to have evolved gradually in American education with the increasing use of textbooks. While it has certain inherent virtues, it may easily degenerate into a barren formalism. Especially ineffective in many cases is the work attempted by the learner in the period of independent study. This ineffectiveness has been recognized for a long time and many efforts have been made to correct it. For several years, beginning about 1910, the problem was vigorously discussed in teachers' meetings and in professional books and journals. It was urged especially that pro-

vision be made for training the learner in the "art of study," and to this end a much closer supervision of the pupils during the study period was encouraged. This meant that teachers should be free during the study period to observe the study habits of their pupils, to point out faulty methods of study, and to guide them in the mastery of the most effective methods of work. These are the functions of "directed study," a term that has come to be used in place of the earlier term, "supervised study."

1. Do not become merely a supervisor of discipline instead of a supervisor of study. The teacher's function during directed-study lessons is to help pupils to study. Incidentally the teacher must see that conditions are conducive to study and that each pupil is using his or her time to the best advantage. Some teachers, however, regard the keeping of order as the only duty and neglect the most important values that directed study should seek to realize. A young teacher who was asked by her supervisor what plans she had made for a directed-study lesson about to be given replied that no plans were necessary because all that she had to do was to see that the pupils kept busy and out of mischief. The teacher's rôle in this case was no more than that of a police officer.

2. Make provision each term for a directed-study program. It is advisable to make definite provision for directed-study lessons when planning the term's work. Some teachers like to use the directed-study

technique for some one subject throughout the term. This may be advisable in getting the pupils accustomed to the procedure. It is, however, preferable to conduct directed-study lessons when this technique is better than any other for realizing the objectives of the lesson. There are occasions when the directed-study lesson is the most effective technique to use.

3. Plan carefully all directed-study lessons. The teacher should know the objectives of the lesson and the outcomes that he expects. He should provide varied references and he should himself be acquainted with the contribution that each of the references makes toward solving the problem assigned. He should anticipate the difficulties of the pupils. (For suggestions as regards lesson planning, see Chapter III.)

4. Introduce new material by means of the directed-study technique. An excellent use of directed study is in introducing new material, whether it be a new field of subject matter or a new topic or unit within a familiar field. Many questions are likely to arise in the pupils' minds when setting out upon a new piece of work and the directed-study technique enables the teacher to give more attention to individuals and to make certain that each pupil is well launched on the new learning activities before being left to his own devices.

5. Methods of work should be discussed and generalized. The valuable outcomes of directed-study lessons lie not only in the materials that are mastered

but also in the methods of effective study with which the learner becomes acquainted and in which he is practiced. In the discussion of the assignment (p. 39) emphasis was laid upon the importance of setting forth very definite methods of attacking the study problem. The directed-study lesson provides an opportunity for the teacher both to see how well the pupils apply these directions and to call attention to the value of the methods and to how they may be applied to other fields. Only by taking such steps is the training likely to "transfer" to other study situations.

6. Encourage the learner to relate the new material to that already learned. The problems, questions, or activities assigned should be so formulated that the pupil is encouraged to relate the new material to what has gone before. One of the chief objections to the formal recitation as carried on by poorly trained or inexperienced teachers is that pupils are permitted merely to give back or *re-cite* the content of the assigned pages of reading without any attempt to connect the material with that already learned in the same field and in related fields. One should emphasize constantly the relations of what one teaches to other subjects and to the problems of everyday life. This is one reason why it is important that the teacher be familiar not only with his own field but with related fields and with the ways in which a knowledge of these fields may enrich life and help in solving life problems. (See Item 1, Chapter I.)

7. Direct pupils to specific references which they might fail to find or would probably waste time in locating. Although it is sometimes desirable for pupils to locate their own references in order to have practice in using library facilities and to become familiar with many books, it often happens that more time is expended than the returns warrant. In general, have references at hand. Teachers sometimes justify or rationalize the lines of least effort on their own part by referring to the need of training pupils to do things for themselves.

8. Teach the effective use of indices, tables of contents, and summaries. Directed-study lessons may well be used to teach the economical use of reference material. Pupils will be much more likely to use reference books freely during independent study if they have been taught how to use them to the best advantage.

9. When learners are using their own books, suggest that they underscore important sentences and make marginal checks and notes. Many people find that marking books intelligently is an important help in mastering their contents. Training in this phase of the art of study is another excellent use to make of the directed-study lesson. The "key" paragraphs may be indicated by marginal lines and the "key" sentences may be underscored or if the passage is too long to underscore, a bracket placed in the margin will serve to embrace the important lines. Authors sometimes insert marginal headings in textbooks; it probably helps

learning more for the pupil to make these marginal notations himself—figures to indicate dates and amounts, and to point out the several parts of one topic; for new words, synonyms which have been found in the dictionary or supplied by the teacher; a statement in five or six words indicating the thought of a paragraph; or, more important perhaps than anything else, questions which have been raised by the reading of a paragraph or section or chapter.

10. Encourage an intelligently critical attitude. The learner should be encouraged especially to question statements that seem to him to be erroneous or statements for which convincing evidence has not been presented. One of the writers of this book once received a letter from a fifth-grade class, which was using a text of which he was a joint author, asking for further light on a statement, presumably of fact, which differed essentially from the statements in certain other books. The class had discovered an error which the writer, his colleague, the editor, and the proofreaders had all overlooked. Needless to say, this fifth-grade class was heartily thanked for discovering this error which was corrected, of course, in the next printing of the text. It happened fortunately to be an error of relatively minor importance, but just as far as is humanly possible every book should be free from errors—and no one can tell when a statement that is apparently of minor importance may become a matter of major importance. Authors and publishers of textbooks are only too glad

to receive from the pupils and teachers who use their texts criticisms of the contents, the "style" of writing, the organization, the illustrations, the "pedagogical helps" (study questions, suggested projects and activities, references for further reading, and the like), and the general "make-up" of the book (typography, illustrations, and binding). They are particularly grateful for corrections of errors in statements that are clearly purported to be statements of fact. Widely used textbooks are reprinted every few months and the errors reported can be quickly corrected.

11. "Skimming" and its place in the learning process. There are as many kinds of reading as there are purposes of reading. One of the most economical and useful types of reading is skimming. Pupils may well practice the art of skimming printed material for main ideas. The directed-study lesson offers an excellent opportunity for practice in this phase of study, especially in suggesting the types of reading-materials that may be "skimmed" and the types that should be carefully studied by repeated readings accompanied by systematic effort at "recall" and "reproduction."

12. Encourage pupils to list the questions that they expect the text and reference materials to answer. One way of arousing anticipatory interest in the lesson to be studied is to encourage pupils to formulate questions which they expect to be able to answer through study. This stimulates the learner to think through the problem as a whole and helps in organizing the

materials. It also helps the learner to accept some and reject other references when specific readings are not prescribed. Often the pupils' questions can be made very effective centers of class discussion.

13. Provide for individual differences through directed-study lessons. Directed-study lessons enable the teacher to provide for individual differences. One way of providing for individual progress is through maximal and minimal assignments. (See Item 9 of Chapter V.) Another is to allow for choice of activities on the part of pupils. The teacher will do well to accumulate a wealth of reference material, especially in the content subjects, so that the brightest pupils may be amply provided for in every directed-study lesson.

14. Diagnose study difficulties during the directed-study lesson. The directed-study lesson will provide opportunities to determine study difficulties. Many pupils have learned to study by the trial-and-error method and in consequence have formed many poor study habits. Ineffective study is a source of much wasted time and effort. During the directed-study lesson the teacher should have an opportunity (and a stimulus!) to analyze the study habits of pupils, point out poor practices, and suggest good practices.

15. Employ the directed-study technique for remedial work. There will seldom be a "homogeneous group" of pupils, for while all members of a group may be somewhat alike in one ability they will vary in many

other abilities. It is a general rule that "all good things go together"; that is, a person who is brilliant is more likely to be healthy than sickly, socially efficient rather than a social misfit, emotionally stable rather than unstable; but there are very many exceptions to this "general" rule. The teacher's principal work is with the normal or average learner rather than with either the very bright or the very dull. These so-called normal learners, although they resemble each other more than they resemble persons at either extreme, differ widely in every measurable trait; these differences the teacher must constantly bear in mind. Consider, for example, a fourth-grade class in arithmetic. Some pupils understand all of the processes but do not have a letter-perfect mastery of the fundamentals; others have difficulty primarily with the problem solving; still others have trouble with the probable quotient in long division; others fail to write a zero in the quotient when the divisor exceeds the dividend. John's greatest difficulty may lie in multiplying zero by one, while Pedro's errors may be due to inability to comprehend the problem because of his unfamiliarity with the language. The directed-study lesson enables the teacher to locate learning difficulties and to give each learner the practice and help he most needs.

16. Use directed-study lessons to help recent absentees and new pupils. Directed-study lessons provide a good medium for aiding recent absentees and new

pupils in making up lost work. During these periods the teacher can see to it that such pupils cover the more important points missed while the other pupils are doing a more detailed piece of work on the lesson at hand.

17. Help pupils to organize ideas during directed-study lessons. Now that the new-type or short-answer test has replaced to a great extent the essay-type examination, it is sometimes found that, when called upon for an organized presentation either oral or written, pupils are seriously handicapped, apparently from lack of practice. During the directed-study lessons the teacher may help pupils to organize statements of facts, beliefs, and principles; show them the advantages of a clear-cut, logical organization; and so do something to develop the abilities which the "essay" examination was supposed to develop and probably did develop in some learners. (See Chapter XVII.)

18. Encourage pupils to coöperate with each other during directed-study lessons. It is often desirable during directed-study lessons for pupils to work in groups. Even if the studying is largely of an individual nature, pupils should usually be permitted to help one another. Quite obviously the teacher should see to it that bright pupils do not do the work for the slower learners, but this danger can be reduced to a minimum. Under this condition the spirit of helpful coöperation may be encouraged at every point.

19. Provide a reasonably quiet room for directed-study. The classroom during directed-study lessons should be free from interruptions and reasonably quiet. It should be a busy workroom rather than a policed study hall. It should be emphasized, however, that a group need not be noisy or disorderly in order to be busy. Here is an opportunity to teach consideration for one's fellows by permitting only necessary distractions.

20. Lighten week-end home work by conducting directed-study lessons on Mondays. Many teachers find it advantageous to plan for directed-study lessons on Mondays thus lightening the amount of home study required over week-ends and preventing unpreparedness or "blue Mondays" on the part of pupils.

21. Provide a checking device for every directed-study lesson. As a rule, the directed-study lesson should close with a check or test of what has been accomplished. Some teachers are ingenious in constructing devices whereby pupils may check their own progress. If self-checking is impracticable, the teacher may prepare a test to be given and scored in class so that as soon as possible after their study the learners may know how effectively they have worked.

22. Give your whole time and attention to your pupils during directed-study lessons. The teacher should be available to pupils who need help at all times during the directed-study period. It is probably better for the teacher to move about among the pupils than to have

them come to the desk for help. Pupils most in need of assistance may hesitate to approach the teacher for help while others may not even be aware that they are in need of assistance.

23. The chief test of a directed-study program is its power to produce independent students. The directed-study technique should aim to develop in the learner the capacity for self-guidance. The basic test of the success of a directed-study program is the increasing ability of the pupils to "carry on" without help from others.

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CHAPTER VII

QUESTIONS AND QUESTIONING

For a very long time, the skillful use of questions has been regarded as one of the most important and most effective means of stimulating the processes of learning. It reflects one of the most generally accepted hypotheses of educational theory — namely, that learning always involves the self-activity of the learner. Under this hypothesis, the teacher is not so much an instructor as a guide. By a series of questions the great teacher, Socrates, led his pupils to discover for themselves the fallacies of their thinking and the unsoundness of their judgments. The principal function of the question in teaching is to confront the learner with a situation which he must think himself through. Questions are used for other purposes, such as to test the learner's mastery of subject matter, and within limits these uses have a legitimate place in the work of education. The most important questions, however, are those that are truly thought provoking.

1. Questions are a means of directing attention to the important features of the lesson. Questioning aids in focusing the pupils' attention on the important points of the lesson. By means of skillful questions the

teacher assists the pupils in organizing the subject matter so that the various items assume the relative positions to which they are entitled. Assume a picture-story language lesson with a group of third-grade pupils. The picture portrays a child in pajamas placing a letter to Santa Claus on the hearth. To ask the pupils "What do you see in the picture?" will not help them to focus their attention on its salient features for they will be likely to answer by listing the various objects in the picture such as stockings, a clock, a little girl, a letter, a table, a chair. Especially will this be true with children of mediocre ability unless former teachers have taught picture stories successfully and the learning has carried over. The teacher would better ask such questions as the following in order to bring out the message the artist has in mind and thereby center attention on the action: "What day of the year do you think it is? Give two reasons for your answer. What do you think the child wrote in the letter?"

2. Ask questions to transform the indifferent pupil into an interested worker. Good questions are first aids in classroom control. An indifferent pupil may not be interested in the work of the class but he is interested in something. If you would banish indifference from your classroom, catch the interest of your pupils by questioning. Not only can the teacher catch and hold the pupils' attention by asking questions but he can keep the pupils alert by occasionally asking a pupil who is inattentive questions like the following:

“Was there anything incorrect about John’s statement? If so, what? Can you add anything to Marie’s explanation? Illustrate the point that Fred made.”

3. Question the pupils to reveal their strengths and weaknesses. By means of questions teachers can determine what pupils already know and wherein they are weak. A fifth-grade class is given the following problem to solve: “What did Jane pay for $1\frac{1}{2}$ yds. of percale at \$.24 a yard?” If the teacher asks Anne for the answer and the answer is incorrect, all that the teacher knows is that Anne did not get the right answer. What the teacher really should know is why Anne failed to solve the problem correctly. Anne may have reasoned incorrectly or she may have made incorrect computations. In order to determine why Anne failed the teacher asks such questions as the following: “What is given? What is asked? What would you do to get the answer?” If Anne fails to answer the first two of these questions, it indicates weakness in getting the thought from the printed page through reading. If she fails on the third question, it indicates that Anne is weak in arithmetical reasoning and that she probably needs practice in reasoning apart from computation. If, however, Anne answers each of the three questions correctly, her weakness is in computation and she should practice with abstract numbers for greater accuracy.

4. Question pupils to enable them to correct their errors. Instead of telling a pupil the correct answer

when he makes a mistake, it is almost always better to help him through skillful questioning to discover for himself the error that has been made. Suppose a pupil multiplies instead of divides to change quarts to gallons in the problem, "How many gallons of lemonade shall I need for 48 persons if I allow 1 quart for three persons?" The teacher, in order to set the pupil right in his thinking, will ask: "(1) How many quarts will you need? (2) Are quarts larger or smaller than gallons? (3) Will you need more or fewer gallons than quarts?"

5. Stimulate thought through questioning. Pupils like to be required to think through problematic situations. Even the very young pupil is capable of doing a great deal more thinking than he is usually given the opportunity to do. The questions that the teacher asks should stimulate thinking on the part of the pupils. In teaching geography a great deal of thinking may be stimulated by asking *why* questions; for example, "Think of as many reasons as you can that will explain why New York has become the largest city in America."

6. Ask questions to raise significant problems. Suppose a teacher asks the pupils to imagine that they are taking a trip through the desert; she asks each to write a letter to a friend telling about his or her experiences. The teacher will ask the pupils what they would be likely to write about in such a letter. The pupils may suggest among other things the weather, the scenery, the means of travel, how food and water were obtained,

and the like. The problems of maintaining life under desert conditions are thus brought into the focus of attention.

7. Question pupils to measure progress. The progress of the learner is usually determined by testing. Most tests are really a series of questions, although the familiar question form may not appear. To frame good questions for the purpose of testing is no easy matter. For a discussion of this problem the reader is referred to Chapter XVII.

8. Questions may be used to encourage pupils to collect data. A teacher desired the pupils to collect significant articles relating to civics in order to develop in them the habit of looking for current events in the daily press. At first the teacher asked the pupils to keep a scrapbook of civics items. Later, however, the teacher made this activity a voluntary affair. He had the pupils prepare two bulletin boards, each with a well-lettered sign. One board was for items of local interest, the other for items of national or international concern. At every class meeting the teacher asked how many pupils had found something significant since the last class meeting and occasionally asked the pupils to give the principal thought of an article in a sentence or two. Before long the members of the class were responding to the clipping idea much better than when the scrapbook had been a requirement.

9. Ask definite questions. Frame your questions so that they are clear and definite. Avoid asking

“What about” questions, as “What about cotton growing in the South?” or “What about the decimal point in multiplication of fractions?” Instead of asking “How about the open-door policy?” ask “What does the open-door policy mean?”

10. See that the question contains all necessary data.

A type of problem once common and sometimes still to be found in arithmetic texts is objectionable partly because it does not contain sufficient data to be answered sensibly. An illustration of this kind of problem is as follows:

Poor: If 3 men do a piece of work in 5 days how long will it take 1 man to do the work?

Better: If 3 men, all of whom work at the same rate and accomplish the same amount of work daily, do a piece of work in 5 days, how long would it be likely to take 1 man to do the work?

11. Questions should not contain irrelevant matter.

Be concise in questioning. The question, “Of all the generals who participated in the war between the North and the South from 1861 to 1865, which one, if any, do you think ranks nearest to General Grant in importance?” is verbose. Stated concisely, the question should be, “Of the Civil War generals, who ranks next to General Grant in importance?” Do not include in your questions irrelevant suggestions, which, aside from having no bearing on the answer, may actually mislead

the pupil. Some problems in the older arithmetic texts can be criticized from this point of view. An illustration of this kind of problem is, "How many yards of carpet 27 inches wide will be needed to carpet a room 15 feet long, 12 feet wide, and 10 feet high?" If it is desired to give practice in the selection of essential data for the solution of a problem, the pupil should be told that not all of the facts given are essential to the solution.

12. Be sure your questions are answerable. Do not ask questions which cannot be answered. Instead of asking, "Who is the greatest American and why?" a question to which there is no answer, ask rather, "Whom do you think to be the greatest American and why?" or "Name one of the greatest Americans and tell why he is great." It is futile to ask, "Is it better to live in the East or the West?" or "Who composed the more beautiful music, Mozart or Beethoven?"

13. Questions should usually be sequential. As a rule each question should grow out of the preceding question or the response which it elicited. This preserves the continuity of thought and gives unity to the lesson.

14. Ask only questions that are worthy of an answer. Avoid asking questions that are not worth answering. Some teachers follow one textbook so closely that in order to be assured that the pupils know everything in the book they feel called upon to ask questions covering all the material presented by the author. Although

many textbooks are the replicas of well-organized courses and are worth following in general, few, if any, are meant to be followed to the letter. Furthermore, most texts contain more than can be discussed in detail in class exercises. In teaching the poem, "Bed in Summer," by Robert Louis Stevenson, the first verse of which is:

In winter I get up at night
And dress by yellow candle-light.
In summer, quite the other way,
I have to go to bed by day.

to ask the pupils, "What is the color of the candle-light?" is to ask a question not worth answering. It is better to make sure by questioning whether the pupils know what candles are — an item of information that cannot be taken for granted in this era of electricity.

15. Frame questions so that they are either interrogative or imperative. Avoid asking questions which are declarative up to the last few words. Instead of, "The chief lake ports from which iron ore is shipped are what?" ask, "What are the chief lake ports from which iron ore is shipped?" To ask the former question is to give the pupils the impression that you are going to tell rather than ask them something; frequently such questions have to be restated because the pupils were not in the proper mind-set to answer. When the question is interrogative throughout, the pupils are able more readily to organize their thoughts toward

finding an answer to it. The imperative form, "Name the chief lake ports from which iron ore is shipped," is often better than the interrogative form.

16. Center questions around topics. It is good practice to center questions around topics. There should be one major question for each large division of the material that is being taught. These questions will put the problems before the class and will be followed by such detailed questions as are required to get the more general questions answered. The learner should be encouraged to prepare assignments in terms of large topics; hence the number of very detailed questions should grow smaller as the learner masters the art of study. (See the discussion of the Topical Recitation, Chapter VIII.)

17. Connect the unknown with the known through questioning. New meanings grow out of what is already known. There must be some contact between that which is relatively new and the past experience of the learner. Suppose a sixth-grade class is about to take an imaginary trip through Switzerland. The teacher may relate the old to the new by asking questions like the following: "What would interest people who are sight-seeing? What topics did we discuss in our imaginary trip through Holland? What interesting facts do you already know about Switzerland?"

18. Adapt questions to the experience of the learner. Vary the vocabulary of questions according to the experience of the learner. Do not discourage pupils

by asking them questions beyond their ability to answer, nor yet insult their intelligence by asking them questions far below their capacity. Teachers who become accustomed to working with pupils of one age level and then shift to a class of a higher or lower age level frequently have trouble in making the necessary readjustments. They are likely to talk down to the pupils or to talk over their heads, as the case may be.

19. Ask "How" and "Why" questions rather than "Who," "What," and "When" questions. Since thought-provoking questions are to be preferred, it is better as a rule to begin questions with "How" or "Why" rather than "Who," "What," or "When." Questions which ask "Who," "What," or "When" usually require an answer of but a word or two. To ask "How did Roger Williams come to found Providence?" is far better than to ask: "Who founded Providence?" "What city did Roger Williams found after leaving Massachusetts?" or "When was Providence founded?"

20. Avoid asking questions answerable by "Yes" or "No" unless followed by "Why." As a rule avoid asking so-called "Yes" and "No" questions unless you follow the answer with "Why." For example, instead of asking, "Are pine trees evergreens?" ask "Are pine trees evergreens? If so, why?" or "Why are pine trees called evergreens?" Occasionally a teacher asks, "Can you describe the home of the Eskimo?" when she means, "Describe the home of the Eskimo."

21. Do not ask two questions when one would do as well. Since most teachers ask too many questions, be sure that you do not ask two when one would do. Instead of asking, "What do you think England should do as regards giving India her freedom? Why do you favor freedom for India? Why are you against it?" ask, "What are the arguments for and against freedom for India?"

22. Do not ask ambiguous questions. Words used in framing questions should not suggest two or more different meanings. The context usually takes care of this, but sometimes words having different meanings in different contexts are sources of confusion to the learner. The word *state*, for example, usually suggests in our country an American commonwealth, but it is used in a different significance in the phrase "Church and State." The term *law* may refer to a statute enacted by legislation or it may be synonymous with a scientific principle such as the law of gravitation.

23. Avoid "leading" questions in which the answer is suggested or implied. Little if any knowledge of facts is necessary to answer correctly the question, "Didn't Lindbergh promote the cause of air travel?" or "Rhode Island is the most densely populated state, isn't it?" or "Would you be so thoughtless as to serve white potatoes, macaroni, and white bread during one meal?" Some teachers resort to leading questions when the supervisor is visiting, hoping to prevent pupil failure. Although by so doing the teacher accom-

plishes her purpose, she also gives evidence of unskilled teaching and perhaps of actual dishonesty.

24. Address questions to the group. Address all major questions to the group as a whole in order to stimulate *all* pupils to organize their materials. After putting the question, pause and then call upon a pupil to answer it. Some teachers call upon the pupil first and then ask the question. This invites inattention on the part of the rest of the class.

25. As a rule, avoid rapid-fire questioning. In drill lessons the rapid-fire question is economical and is to be recommended. In lessons other than those of the drill type, however, many detailed questions are undesirable. For example, in a lesson on rivers, it is bad practice to ask the following detailed questions: "Describe the banks of a young river. What kind of river bed would you expect to find? What would be the appearance of the water? Describe the bank of an old river. What kind of river bed would you expect to find? Would the water be clean or muddy? Do you associate the following with a young or with an old river: deltas, whirlpools, meandering, falls, factories?" Better practice would be to ask, "How can you tell a young river from an old river?"

26. Distribute your questions. Guard against allowing a few pupils to answer all the questions even at the expense of securing less adequate answers. Many teachers find it helpful to look over their record books beforehand and to jot down the names of four or five

pupils from whom they wish to hear during a period. As a rule, pupils who volunteer will have ample opportunity to take part in the class work but one must be careful to draw into the lesson those who do not volunteer. Do not call on pupils in an alphabetical or any other uniform order and occasionally call on the same pupil more than once in the same recitation period.

27. Do not pursue a pupil by questioning. Avoid causing a pupil embarrassment by pursuing him with further questions in the presence of others when he has given evidence of unpreparedness. Rarely, if ever, should a teacher use this method of disciplining a negligent pupil. It wastes time and tends to develop a hostile class spirit.

28. Rarely repeat a question. Avoid repeating questions. Sometimes a pupil will say, "I do not understand the question," when in reality he did not hear it but is unwilling to acknowledge the fact. Ask the pupil to repeat the question; if he is unable to do so, ask another pupil to repeat it.

29. Evidence interest in the answer after asking a question. Stimulate the pupils to organize their statements carefully by showing them that you are interested in what they have to say in answer to your questions. Teachers who ask questions in a perfunctory manner and evidence lack of a lively interest in the discussion may be fairly certain that their classwork will be ineffective. Both interest and the lack of it are highly contagious. A prime necessity of every good teacher

is enthusiasm for the subject or subjects that he teaches. William Rainey Harper, first president of The University of Chicago, and before that a teacher in Yale, was once asked how he kept up his enthusiasm in teaching beginning classes in the Hebrew language year after year. He replied that when he felt no enthusiasm for his classwork, he simply sat down and created some. Good teachers are masters and not slaves of their interests.

30. Answers should be addressed to the class. The class period should not be devoted to dialogues between the teacher and individual pupils. When a pupil answers a question which has been addressed to the class, he should address the class in answering. The entire group should take part in all of the lesson.

31. Insist upon answers being given in good English. If you accept only answers which are well expressed, you increase the chances that such answers will be the only kind that you will get. Do not be satisfied, even if you think the pupil has the right idea, when he fails to express it clearly. Many times when a teacher questions a pupil further, he finds that the right idea was not in the pupil's mind after all. The teacher should not guess at what a pupil means. Encourage pupils to restate their answers when they are given in poor form.

32. Never ridicule a pupil's answer. If a pupil's answer is ridiculous, accept it in all seriousness and indicate its inadequacy through further questioning.

Pupils rarely set out to make themselves appear ridiculous. If they do so intentionally, discourage further responses of the kind by refusing to consider their contributions. If they have unintentionally made what seems a ridiculous answer, respect their sensitiveness and treat the answer in the sincere spirit in which it was given.

33. Avoid repeating answers. Undesirable as it is to repeat questions, the repetition of answers is an even worse practice, for it encourages pupils to respond incoherently and inexactly and discourages pupils from listening to what their classmates have to say. Occasionally for the sake of emphasis, the teacher may deem it advisable to repeat a pupil's answer. He must, however, be careful not to allow the repetition of an answer to become a common occurrence.

34. Inspire confidence by finding something of value in every answer. Some of the best classroom teachers seek always to find something of value in every contribution made by members of the class. If a teacher forms the habit of looking for the good as well as for the faults in pupils' answers, he will soon realize that few, if any, contributions are worthless.

35. Avoid "concert" recitations. Pupils should not be permitted to answer questions in unison. Even in drill lessons this practice is generally regarded as undesirable, since it is unlikely that all errors and the pupils making them will be detected. Concert recitations are also to be avoided because they encourage "bluffing."

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CHAPTER VIII

THE TOPICAL RECITATION

The topical recitation is a formal teaching pattern that has certain merits, although the general procedure is out of harmony with the educational theory that just now seems to dominate American school practice. It is based on an assignment that all members of the class are to master. The assignment may be confined to a single textbook, or it may involve several texts or reference books.

1. Provide for organization of knowledge. State clearly in the assignment the topics into which the material is divided. Emphasize the need for the learner to arrange his ideas so that he can present them as a unit, the topic being the focal point. Encourage reorganization of textbook materials in the learner's "own words"; discourage verbatim mastery of the text.

2. Insure organization in the recitation. In the recitation, state the topic to be discussed, then pause before calling upon a pupil to recite. In this way, not only the pupil who is to recite but every other pupil as well is encouraged to organize a response.

3. Avoid a uniform order in calling for recitations. A uniform scheme of calling on pupils is fatal to this

type of recitation. Occasionally ask the pupil who is reciting to let another pupil complete the discussion of the topic. In this way, the pupils will come to see the need of following each discussion attentively. It is well, also, now and again to call later in the period on one or two pupils who have already taken part in the recitation. This will prevent them from assuming that one discussion discharges all of their responsibilities.

4. Relieve the formalism of the procedure. When a pupil has recited upon a topic, the teacher may frequently ask for voluntary contributions which will round out the discussion of the topic. In the event that a number of additional points have been contributed by several pupils, the topic may well be presented again in order that the added items may be fitted into the proper organization.

5. Avoid a dictatorial attitude. As a rule, a formal technique can be an effective technique only when the learner enters into it with zest. The teacher will do well to avoid an autocratic and domineering attitude and to do everything possible to create a class spirit that will be favorable to the sustained attention, the alert mental attitude, and the effort toward clear-cut organization that this technique, under the right conditions, very distinctly encourages.

6. Encourage pupils to ask for further explanation about points not understood. Genuine questions from pupils asking for further light on the topics under discussion are always to be encouraged, but an exacting

technique of this sort may lead some pupils to ask questions in order to postpone the discussion and delay the time when they must give an account of themselves. Questions of this type can usually be identified by their trivial and irrelevant character.

7. Be aware of the attitudes that are being developed during the recitation period. The teacher's chief concern is the learner rather than the topic. He believes that the learner is benefited by discussing the topics and by listening to the discussion of others. It is always well to look for any evidences which would indicate that the assumed benefit is not being realized. Formal procedures in teaching have been criticized and in many cases entirely abandoned because of the charge that they develop undesirable attitudes in the learner. While this is not a necessary outcome it is a possible outcome and should be sedulously guarded against.

8. Encourage independent, clear, and forceful presentation. The topical recitation should make for development in self-expression. The merits of discussions that are especially well organized and well worded should be pointed out to the class if this can be done without too often praising bright pupils. Improvements in expression may well be openly commended. By sympathetically showing where the discussion has wandered from the point, the learner may become sensitive to the virtues of a coherent presentation.

9. Encourage the stating of material in a new way. Just as a review should mean a new view, so a recitation

should mean a telling in a new way. In the topical recitation a premium should be placed upon originality and variety in expression.

10. The pupil should speak the language of the subject. The topical recitation provides opportunities for enlarging the vocabulary of the learner. Pupils should be encouraged to use language appropriate to the subject. As a rule, the meanings of new words should be developed in the assignment; then in the recitation a premium should be placed on the accurate use of these words.

11. Close each topical recitation with a summary of the work covered. As a rule, each topical recitation should be concluded with a summary made by the teacher or by a pupil, depending upon the maturity and ability of the group. It may be desirable to have the group write a summary paragraph as a means of checking the results of the recitation and practicing the learner in the art of making terse summaries.

12. Do not grade pupils during the recitation. To grade pupils upon the completion of each recitation is likely to cause nervousness and hinder them from spontaneous expression. Skillful teachers devise means for recording an impression of the pupil's work without making the grading conspicuous in a record book.

13. The topical-recitation technique is not an exclusive technique. It would be unwise to have all recitations follow the topical pattern. This procedure should certainly be supplemented by the more informal

“socialized” recitation (see Chapter IX), and most students of the problem would give by far the greater emphasis to the latter, while some would regard the topical recitation as the acme of “bad practice.”

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CHAPTER IX

THE SOCIALIZED RECITATION

The socialized recitation is probably the pattern of classroom teaching that is most highly approved by present-day students of educational theory and practice. A recent study ¹ indicates that, in the town and city elementary schools throughout the country, the classwork follows this pattern more frequently than it follows the more formal patterns of textbook teaching.

The essential feature of the socialized recitation lies in the fact that individual pupils or committees of pupils contribute to the class as a whole something that they have been delegated to "work up." In other words, the assignments are "individual" and "group" assignments rather than "class" assignments. It is maintained that this arrangement gives to the process of learning a social purpose that is lacking in the class recitations and discussions based on an assignment that is common to all.

1. Plan socialized recitations with care. All classwork requires careful preparation on the part of the teacher but none more so than the more informal

¹ "The Textbook" (*30th Yearbook*, Part I, of the National Society for the Study of Education), Chap. II; Public School Publishing Company, Bloomington, Ill., 1931.

procedures, one of which is the socialized recitation. Because this procedure emphasizes the pupils' responsibility for the conduct of the lesson, some teachers regard it as one for which they need not plan. A young teacher recently recommended to his associates an extensive use of the socialized recitation technique, "For," he said, "all that the teacher has to do is to appoint a chairman and he does the work." This teacher might have permitted the pupils to elect their own chairman and then he would have been relieved of all responsibility.

2. Make use of the socialized recitation to develop desirable character traits. The socialized recitation is believed to provide a good medium for the development of desirable character traits, such as leadership, initiative, coöperation, good sportsmanship, courtesy, and responsibility. The theory is that leadership and initiative are developed by permitting pupils to act as chairmen of the committees, and occasionally of class discussions. A sense of responsibility is believed to be encouraged when each pupil is expected to contribute to the discussion something that his fellow pupils do not know. Courtesy and good sportsmanship may be exemplified in the attitudes that pupils are encouraged to take in criticizing others and accepting criticisms from others.

3. Employ the procedure of the socialized recitation to improve oral expression. Because of its informal character the socialized recitation tends to be charac-

terized by slipshod habits of speech. Correct English must be insisted upon at first by the teacher. Soon, however, the pupils can be trained to expect correct English from one another.

4. See that good will prevails throughout. It is essential that a spirit of good will prevail throughout the socialized recitation. Whenever a pupil presides as chairman, his fellows should extend to him the courtesy demanded by the position. Discourage heated arguments and the display of prejudices. If a teacher cannot conduct a socialized recitation so that good will prevails throughout, he should discontinue the practice.

5. Permit but one pupil to speak at a time. One of the difficulties in conducting socialized recitations lies in keeping them informal and conversational in nature, in preserving the pupils' enthusiasm, and yet in not permitting more than one person to speak at a time. Many teachers find it helpful to ask those who have something to say to stand and wait for the chairman (whether the teacher or a fellow pupil) to recognize them before speaking. It is far better to have some formality than to have the confusion that is certain to arise in the absence of all regulations. The socialized recitation should be "informal" in the sense in which an important conference is informal.

6. Encourage all pupils to find appropriate material to contribute to the discussion. The effectiveness of the socialized recitation depends in large part upon the degree to which each pupil feels his responsibility to

contribute something of value to the discussion. The pupil meets only part of his obligation when he merely pays attention to what others present. To benefit most from the recitation he must share in it. It is important that the pupil learn how to determine whether or not his contribution will be of value to the group before offering it. Generally it should be material not known to other members of the class.

7. Avoid either dominating the situation or being a mere spectator. The teacher should be more than a mere spectator. He should frequently act as chairman and always he should be ready to guide the recitation through suggestions and questions and to step in to fill any gaps caused by absentees to whom a special assignment has been given. Another important function of the teacher is to act as referee. The teacher should not, however, dominate the discussion.

8. Train pupils to speak to the point. Discourage from the outset rambling discussion. At first the teacher will have to call attention to the fact that this or that pupil is talking off the point or making an irrelevant contribution. Before long the pupils will learn to check each other in this respect. Pupils must be encouraged to make only pertinent criticisms. Trivial faultfinding should be discouraged.

9. Avoid visibly grading pupils during a socialized recitation. To make pupils aware that they are being graded during their participation in socialized recitations is likely to put a damper on their spontaneity.

Teachers should note the performance of the leaders with sufficient care to give them credit after the lesson is over. Certain pupils stand out in the teacher's mind as having done conspicuously well or poorly. It is not necessary to grade every pupil for each lesson. A good plan is to list before the lesson begins the pupils whose work one wishes to note particularly. It is an easy matter to retain impressions of the work of a small group until after the period is over.

10. Encourage pupils to ask questions about statements that they do not understand. It is much better for pupils to ask questions about that which is not clear to them in the lesson than to let the matter pass. Not only is the questioner set right with respect to the point raised but the pupil making the explanation has probably a better hold on the material himself through presenting it from a different angle. Pupils must be cautioned, however, against asking questions merely to worry their fellows. Unless care is taken, this technique may develop undesirable attitudes as well as the desirable attitudes that are claimed for it.

11. Encourage pupils to evaluate contributions and criticisms. One advantage of having a pupil preside occasionally is that he will need to judge as to the pertinency and the adequacy of the contributions made by his fellows and the fairness of their criticisms of one another. The pupils, too, will form judgments as regards the fairness of the leader's decisions and the fairness of criticisms directed toward themselves. They

will judge to what extent each contribution is of value to the group and where it best fits in. When arguments arise, as is certain to be the case in animated discussions, pupils should be encouraged to suspend judgment while raising further questions the answers to which will throw more light on the problem. The socialized recitation offers an excellent opportunity to exemplify the spirit of tolerance.

12. Provide against monopolization of office. It is no easy matter to train able leaders of socialized recitations. For this reason teachers are inclined to select the most likely chairman, train him, and keep him in control. This is undesirable. Since in theory an important outcome of the socialized recitation is to develop leadership, the functions of both the class chairman and the committee chairman should be passed around. Although the pupils who have the least initiative will probably make poor chairmen at first, it is they who most need the experience. Frequently, too, a teacher does not know the hidden power of his pupils until they are given some responsibility. It is often surprising how rapidly a diffident pupil grows in poise and self-confidence under the spur of responsibility.

13. Avoid using the technique of the socialized recitation for the introduction of difficult subject matter. Do not use the socialized-recitation procedure when introducing a difficult topic. It is hard enough at best to conduct a socialized recitation economically and

profitably without imposing at the same time the additional handicap of a new type of subject or an especially troublesome topic. Socialized recitations are likely to be more successful when they are concerned with topics analogous to those for which the teacher has supplied a model. For example, after the teacher has conducted several discussion lessons on the customs and occupations of a country, the pupils may be trusted to carry on socialized recitations concerning similar topics with respect to other countries.

14. Do not resort to the socialized-recitation technique to develop or clinch a principle. In developing a principle, rule, or law, one must build firmly. Direct instruction by the teacher is essential at such points.

15. As a rule, limit the socialized recitation to the content subjects rather than the drill or expression subjects. Generally speaking, the socialized-recitation technique is better adapted to such studies as geography, history, and civics than to reading, spelling, and arithmetic, or music and art. It is effective, however, in literature lessons that involve the presentation by different pupils of what they have learned about an author that they are studying, the place in which a novel or drama is located, or other matters that are ancillary or supplementary to the study of a masterpiece.

16. See that the points made during a socialized recitation are well organized before the close of the period. In most instances it is desirable for the teacher

to reserve a few minutes at the close of the period in which to present the points made during the lesson in well organized form. Some pupil leaders may be able to do this summarizing satisfactorily. That it be well done is the chief concern.

17. Do not permit socialized procedures to interfere with thorough mastery. There is very real danger that the socialized recitation will be superficial and profitless. The teacher should see that the procedure does not preclude mastery. Tests will reveal the hold that the pupils are getting on the material. If it is found that superficial work seems to be the result, either the socialized procedure should be so modified as to bring the desired results or another technique should be substituted.

18. Guard against having bright pupils do all the work. Just as there is a tendency for the teacher to appoint only the very bright pupils to act as class chairmen, so there is a tendency for the committee chairmen to overwork the bright pupils in the group and ignore the others. The teacher, however, must see to it that all are given an opportunity to be heard and that every pupil participates in the working up of materials.

19. Use the socialized-recitation technique sparingly with dull pupils. As a rule socialized recitations are more effective when used with normal or bright pupils than when used with less able groups.

20. Unskilled teachers should avoid extensive use of the socialized recitation. The socialized recitation is

likely to prove ineffective if not disastrous in the hands of an unskilled or poor teacher. It is well for the novice to be cautious in his use of the socialized recitation until such time as he gains skill and confidence.

21. Bear in mind the limitations of the socialized recitation. Experiment has indicated more or less clearly that it would be unwise to use the socialized-recitation technique to the exclusion of the more systematic types of teaching. The advantages claimed for the procedure do not demand its exclusive use to insure their realization. If one class meeting out of every five reflects this technique in a really effective way, it seems likely that the values referred to can be satisfactorily realized. This will leave four fifths of the lessons to techniques that are much more effective from the point of view of actual mastery.

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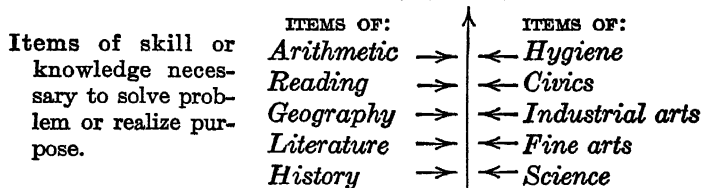
CHAPTER X

THE PROJECT METHOD

The project method is much more than a method in the narrower sense of the term. It is really a way of organizing and integrating the materials to be learned. The logical organization of subject matter and its systematic mastery are, in project teaching, replaced by what is often referred to as a psychological organization and the learning of facts, principles, and skills through using them to solve a problem or realize a purpose. The difference is illustrated in the accompanying diagram.

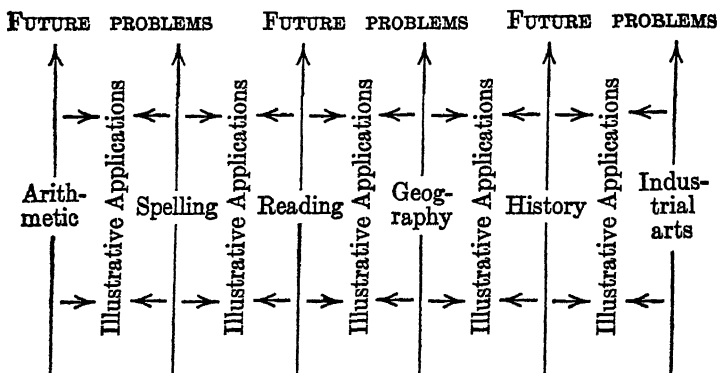
I. PROJECT-TEACHING

IMMEDIATE PROBLEM OR PURPOSE



The problem or purpose, for example, may be represented by a keen desire on the part of a group of pupils to present a dramatization of the signing of the Mayflower Compact. To carry through a project of this sort will obviously involve: (1) a careful study of historical sources to determine what events to reproduce and how to reproduce them; (2) a study of related facts of geography; (3) measurements and computations involved in the construction of stage settings and costumes; (4) practice in the industrial arts in making stage settings and costumes; (5) writing, spelling, and composition in the construction of the scenario; (6) practice in reading and speaking.

II. SYSTEMATIC TEACHING



The second part of the diagram represents the various subjects of study organized and taught, each in accordance with its own internal system and with reference not to immediate values or applications but to "deferred values" or adult applications. Frequent efforts are made, however, to illustrate possible applications and values through practice in school problems or references to situations in actual out-of-school life.

1. Regard the project as a psychological unit of instruction. The project should be regarded as a unit of learning. This unit may provide for the correlation of many subjects in the curriculum or it may be a unit within one field of subject matter. To prepare a class paper or magazine may draw upon art, English, penmanship, history, geography, spelling, music, arithmetic, hygiene — in fact upon every subject taught in the elementary school. A project of this type may well be a term's project, yet it may contain many narrower projects. For example, in developing a class-paper project, one of the subordinate projects was concerned

with "Our City," primarily an English-civics enterprise. The pupils wrote to the city authorities, including the mayor, chief of police, fire chief, superintendent of public health, superintendent of schools, superintendent of public parks, public-library director, and other officials, in order to find out about their city. The answers received from each of the city directors supplied the information for articles on "Our City."

2. Projects do not necessarily involve "making things." Some teachers believe that they are utilizing the project method only when hammers and nails or paste, paints, scissors, colored papers, and crayons are in evidence and confusion reigns supreme. Any large plan or purpose in the realization of which important items of knowledge or skill must be learned may constitute an educational project.

3. Guide the learner in formulating wise purposes. A project should be characterized not only by whole-hearted purposeful activity but also by activity that is intelligently directed. Not all of the purposes of children are equally valuable, and the teacher needs to guide the pupils in "purposing" wisely. Very often this guidance will take the form of suggesting appropriate activities, discussing their relative values and difficulties, and ending with the adoption by the pupils of one or more of the suggestions. It is a mistake to assume that an activity is ruled out merely because it did not originate with the learners. It is equally wrong to suppose that because a pupil suggests a project it is

worthy of being followed out. Actual and whole-hearted acceptance by the learner is an essential of the project method as advocated by some students of education. Others, however, would not insist upon this as a *sine qua non*, provided that a project proposed by the teacher promised to result in valuable learnings.

4. Encourage the learners to plan their activities.

In any case the teacher should guide the learners in planning their activities. There is probably a measure of truth in the statement that children learn to do by doing. Often we learn what not to do by finding that what we do brings about an undesirable result. Whether learners should be allowed to plan poorly occasionally or be prevented from doing so depends upon how much is at stake. As a rule the teacher can guide the pupil in thinking of what the result would be if one plan rather than another were followed. In a third grade a small boy was making a stage for a puppet show. He found when he had it almost completed that the audience could see little because the back of the stage was wider than the front, and the sides did not converge from the front toward the back. Although the teacher knew that the boy was planning incorrectly she thought it best to keep "hands off," allowing him to learn through his mistake. She was not so certain about her attitude, however, when she overheard the boy say to a classmate, "The teacher let me go ahead and spoil the stage and I'll never find another box as good as this one. They had a puppet

show in this room last year so she must have known mine wouldn't work. And look at all the time I wasted! What's a teacher for, anyway!"

5. Encourage learners to judge results. After the project is completed a valuable learning activity lies in having the pupils judge the result. They may be encouraged to ask how closely they came to realizing their purpose, and if the end was not what had been projected, wherein it fell short and why.

6. Make sure that the project helps to meet future as well as present needs. Few projects are justified as ends in themselves. A serious objection to the project method in the minds of many teachers lies in the fact that so many projects merely cater to the transitory whims of the pupils. From the educational point of view the important outcome of a project is not the solving of the problem or the realization of the purpose, but the new learnings that the solution or the realization has brought about. Unless the project results in many learnings which will be found useful in subsequent undertakings, the pupils would better spend their time in other types of learning activities.

7. Look to extraclass activities for project "leads." Extra-curricular activities represent a fertile field for project suggestions. In the modern foreign-language clubs, for example, a common activity is letter writing. High-school pupils write in English to pupils in France who answer in French. Elementary-school pupils frequently find much pleasure and profit from correspond-

ing with pupils in a school in another part of the country. Often real friendships are begun in this way. Dramatization, debates, competitive enterprises, collecting nature specimens or materials for a schoolroom museum, giving school parties, preparing travelogues, and similar activities may suggest valuable projects.

8. Do not regard the project method as a *laissez-faire* procedure. Do not turn the pupils loose. Allow them as much freedom as they can intelligently use and no more. Most projects demand a greater amount of freedom and informality than school procedures of other types. Care must be taken that freedom does not become license. Freedom which is the outgrowth of self-control is the type of freedom which pupils should earn and enjoy.

9. Be careful to impose only as much responsibility upon pupils as they can reasonably carry. Although most teachers are prone to expect too little from pupils in the matter of accepting responsibility, the teachers who are the most ardent advocates of project teaching often err in the opposite direction. They are likely to place too much responsibility upon small shoulders with the result that the children become overstimulated, perplexed, and finally discouraged. Too many indolent teachers resort to project teaching of a poor kind because they believe that, by this method, they can shift the responsibility from themselves to the pupils. No teacher can shift his responsibility by resorting to any technique or device.

10. Insist upon thoroughness. Another tendency of unskilled teachers when employing the project method is to teach superficially. There is as much need for thoroughness with this method as with any other. It is often possible to produce what appears to be a fairly showy piece of work although the pupils have actually learned little thereby. It is more difficult to be deceived by the results of the more formal procedures. Hence the teacher must insist upon mastery rather than be satisfied with halfway learning.

11. Be assured that no worthy end can be achieved without order and system. The proper use of the project method is not divorced from order and system. It is a mistake to think that children like disorder and dislike system. Time and again when pupils are given an opportunity to state why they like or dislike a teacher, the ability to control the class and to secure good results ranks high as a qualification of the teachers who are successful and well liked.

12. Be ready to assume any rôle from that of supreme authority to that of an interested listener. In project teaching keen insight and good judgment on the part of the teacher are of the utmost importance. In the more formal school procedures the teacher's rôle is rather definitely determined and varies little, but in project teaching the teacher's rôle may vary from that of supreme authority to that of an interested looker-on. The teacher must know when to step in and when to stay out; and not only that, he must know how much

help to give so that he neither makes the pupil too dependent nor yet leaves him helpless.

13. Always check project results. It is true that many of the most sought-after outcomes of project teaching are difficult to measure objectively but that does not prevent the teacher from measuring the outcomes which are objectively measurable and from evaluating subjectively the more subtle outcomes which the project organization is supposed to engender—initiative, resourcefulness, independence, and the like. Administrators who object to project work will soon cease to object if the teacher can show that as good or better results are obtained thereby than through any other means. Many teachers find it helpful to keep a project chart upon which they indicate the progress in the several school subjects made by the pupils through the project or projects in operation. (See Item 17, Chapter XI.)

14. See that the project is consummated. If a project is begun, it should be completed. If it is not worth finishing, it should never have been started. It is true that pupils often lose some of their initial enthusiasm after the project is launched, especially if they cannot see that it is making rapid progress. This is the time to develop the ideal of persistence. The pupils' interests will soon be revived if they find that they must complete what they begin. Also, they will be less likely to act upon any purpose that strikes their fancy when they know that what is begun must be finished.

15. Regard group projects as superior to individual projects. Perhaps one of the most important outcomes of project activity is the development of desirable social attitudes. Through project work pupils should learn to coöperate, to accept responsibility, and to develop self-control. Hence group projects are generally regarded as preferable to individual projects.

16. Utilize the project idea in introducing new and applying learned principles. Many teachers find that they can use the project method best when introducing new material or in applying knowledge already acquired. For example, a teacher wishes to motivate the mastery of the multiplication facts. A play store may be prepared by the children who find, when they try to use it, that they do not know what to pay nor what to charge for 3 cakes of soap or 7 boxes of crackers. In order to be able to play the store game well, the pupils will set to work to learn the necessary facts — at least this is the contention of many students of education. After the facts are well learned, they can be applied by means of the store project. An excellent way to apply geographical facts about any country is to plan a travel talk or to have the class make an imaginary trip.

17. Do not assume that the project necessarily requires special equipment. Some teachers excuse themselves from attempting project teaching by saying they have only the most meager equipment in their schools. Some of the best project teaching is done with no equipment save that which is absolutely essential in any

classroom. The less the special equipment, the greater the opportunity for using initiative in improvising ways and means for carrying out the projects.

18. Do not think project teaching is possible only with a small class. Project teaching is possible with any classes that a teacher is likely to have. Since group projects are preferred, it does not usually matter (within limits) how many pupils participate; the larger the group, the greater the number of ideas and suggestions for carrying the project through to a successful conclusion.

19. Do not think that the project method is applicable only to bright pupils. The project method can be used with dull as well as with bright groups. In fact, much of the activity in classes for defective pupils is likely to be the constructive type of project.

20. Plan definitely for continuity and sequence when teaching through projects. Guard against gaps in learning when utilizing the project method. Informal teaching is conducive to disconnected learning. The teacher must plan the work definitely if continuity and sequence are to prevail.

21. Encourage logical organization of subject matter after facts and principles have been learned through projects. The project method illustrates the psychological organization of subject matter. For example, in playing store the multiplication facts are presented in the setting of their application. The tabular organization, however, presents a systematic arrangement which

is readily committed to memory. By means of it one fact helps to recall another fact. In a sense learning through projects is hand-to-mouth learning. One learns merely to help complete the project. Logically organized learning is learning for permanent mastery.

22. Do not regard the project method as a panacea for all educational ills. The project is one method by which some good teaching can be done. It is not a panacea — nor is any other method a solution of all educational problems.

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CHAPTER XI

TEACHING THROUGH ACTIVITIES

A direct outgrowth of the project method is what is often referred to as the "activity program" or the "activity curriculum." It is very difficult to define the term, for "activities" of varied sorts appear in such programs. A great deal of emphasis is laid upon the pupils' interest, however, and some teachers regard any problem or project that the pupils agree upon, or any topic that they wish to study, as constituting a legitimate "activity." Others would identify an educative activity with a relatively large unit of interest which grips the group as a whole. In either case, pupil initiative and a large measure of pupil freedom are important features of most activity programs. The freedom characteristic of "activity schools" is due in part to the abolition of fixed time allotments and subject-matter schedules, to movable furniture, and to the fact that pupils are permitted to move about from room to room and to converse pretty much at will. While the present writers are not in sympathy with the proposal to replace *all* systematic and directed learning with pupil-initiated activities, they do believe that such activities have an important place in the school.

Relatively few public-school systems have adopted an activity program *in toto*, although a number of them are trying out the idea in the lower grades. As yet, activity curricula are confined for the most part to private schools and to experimental schools. These schools represent several types of organization. In some activity schools all of the work for a year in a given grade centers around one main activity, as, for example, "the farm" or "our city." Sometimes a year's work is made up of a succession of activities requiring but a few weeks' work. In still other schools several activities are carried along simultaneously throughout the year. (Many of the items in Chapter X, "The Project Method," are pertinent here.)

1. Freedom does not mean license. The educational theory that has emphasized the more informal procedures in teaching has been criticized because "free" schools have sometimes been disorderly schools and their pupils have sometimes been ill-mannered. Really successful teachers in these schools, like really successful teachers in schools organized on a systematic basis, succeed in making good order and good manners matters of "fashion" in the school group. (See Item 10, Chapter III.)

2. Advance, but flexible, planning of the activity program is desirable. There are some who advocate no planning of activities in advance but who would look to the immediate interests of the children for *leads* to determine each day's work. (See the introductory

statement, Chapter IV.) Teachers of the better activity schools, however, recognize the dangers in following such a hand-to-mouth policy. Many of them believe that the activity program should be planned in advance, not only in general, but also in some detail. One reason for advance planning is the requirement that materials be at hand when needed. The teacher may call out desirable pupil purposes and interests while assembling materials, thereby setting the stage. (Additional advantages of planning activities are indicated in a number of the other items in this chapter.)

3. Be on the lookout for interest "leads." It is always important for the teacher to watch for expressions upon the part of pupils, which may suggest budding interests of a type that will be educationally profitable if allowed to become centers of learning activities.

4. Activities that lead on are best. To be really valuable activities should *lead on*. Often one interest lead, when followed, suggests other interest leads. Not only should the activities be of value as ends in themselves but also as means to ends. For example, to make boxes to hold toys for the kindergartners or tables for library or supplementary books would probably be less valuable than to make window boxes which would then need to be filled. This in turn would suggest the problems of the best plants to use, where to get them, how to raise money if the plants have to be purchased, and how

to take care of them after they are planted in the boxes. Practice in the care of plants would also naturally follow.

5. The activity must be challenging. The learners should be encouraged to discriminate between the leads that will carry them to higher levels of growth and those that will simply mean a little more learning on the present level. This is particularly important in connection with the so-called "creative" activities — painting, modeling, writing verse, and the like. In activity schools we see a number of children working harder and applying themselves more vigorously to self-imposed tasks than some children in traditional classrooms. Their "leads" have been carrying them to higher levels. But we also see children there who are wasting their time because they are engaged in simple activities which have little further value for them. They have already exhausted all that these activities have to offer, and have found no new higher-level needs.

6. Encourage activities that are truly sequential and developing. Examination of the programs of several activity schools shows that pupils often engage in what seem to be similar, if not the same, activities in several grades. They fail to get in each succeeding grade equally valuable, new experiences. For example, a group of pupils now in the fifth grade in one activity school engaged in an extensive study of Indian life in the second grade and again in the fourth grade; but at no time have they participated in activities centering

around either their own locality or life in the far north. In other words, unless the activities are selected with some idea of sequence and development in mind, there are likely to be gaps in the pupils' education, due to the overemphasis of some types of activities and to the exclusion of others equally desirable. To be sure, in the illustration just given the outcomes in both instances would not necessarily be identical; but no doubt more, new, and richer experiences would have resulted had a more varied and sequential program of activities been followed.

7. Do not emphasize the present and near-at-hand at the expense of the race heritage. One of the tendencies of many activity schools is to overemphasize learning through direct experience and at the behest of the pupils' immediate impulse and desire, while failing to make adequate provision for mastery of the experience of the race. Is it advisable always to let learning of the latter type await the time when a natural impulse or desire for such learning puts in its appearance? Should we delay an attack on the mechanisms of reading, for example, or on the number combinations until a real need for these useful tools makes a vital and compelling appeal to the immature learner? If a natural interest in geography fails to evince itself, shall we let the individual remain innocent of geographical knowledge? If a child does not "take" naturally to activities calling for a knowledge of the history and government of his country, shall we permit him to grow

up in entire ignorance of these important subjects, or, at best, until such a time as he may evince some stray interest?

8. Watch activities lest they result in erroneous learning. Since the activity theory emphasizes self-guided learning, it is well for the teacher to know the sources of information that the learner depends upon and whether the information that he secures is reliable.

9. As a rule, an interest lead that has been accepted should be continued to a successful conclusion. Even those who insist that learning activities should always take their "cue" from the spontaneous interests or purposes of the learner usually insist that activities begun be carried through. Thus, while these educators object to the "imposition" of information or skills, they are unwilling not to "impose" standards.

10. The importance of group discussions. In typical activity schools the actual selection of group activities and of ways and means of carrying them out are often determined in large measure by class discussion in which the teacher does little authoritative directing. Since class discussions assume so important a rôle, it is desirable that pupils be acquainted with what constitutes effective discussion. They should be taught to keep to the point and to see that courtesy prevails at all times. Here again, the success of an activity program depends upon maintaining a certain standard.

11. Provide for work as well as play. Activity schools have been accused of *playing* at the work of

education. They can ill afford to close their eyes to the moral and disciplinary value of hard work. In life outside the school, both now and later, children often will have to engage in activities not quite to their liking and not of their own choosing. Where are they to learn to stick to the difficult but necessary task if not at school? Children must learn to persist in the face of obstacles. It is the intense effort also that educates.

12. Include drill in the activity program. Unless specific provision be made for drill in the curriculum of the activity school, the pupils are likely to fail to master those essential skills which should be part of the equipment common to all, such as spelling, language forms, reading, writing, and the fundamental operations in arithmetic — all commonplace but socially very essential. There is a tendency in the activity school to regard the minimal essentials as incidental outcomes or by-products. It is extremely doubtful whether all of the skills which we demand of our young people can be developed *incidentally*. Activity schools would probably do well to plan definitely for practice on the common skills by making use of the better practice materials in the several subject-matter fields.

13. There is little true creation without technique. One of the chief aims of activity schools is to free the creative tendencies of the child. To expect children to create anything of worth without teaching them the technique peculiar to the medium with which they are working is as foolish as to expect pupils to think when

they have no pertinent ideas or facts with which to think. Successful activity schools must give more attention than many of them now do to teaching the techniques necessary to the creative activities in which the children are engaged, such as dramatics, construction, drawing, painting, versifying, and English composition. It is altogether desirable that the child feel the need of technique and that he seek help in attempting to do a bit of really creative work. But not all children of themselves will feel this need. Those who do not should be made acquainted with the inadequacy of their "creations" and taught better ways of creating.

14. Do not overdevelop the individual at the expense of the social side of the pupil. Because activity schools place emphasis upon the development and welfare of the individual and upon his interests and wishes, they are likely to underestimate the importance of social welfare. In addition to developing the child's initiative, creativeness, special aptitudes, independence, responsibility, and the like, the activity school must not fail to give considerable attention to developing habits and attitudes which promote the good of the group. When much provision is made for individual development and little for social development, we have perhaps an even more unfortunate condition than exists when the individual is practically lost sight of in the group. It is important that pupils be taught to *follow* as well as to *lead*, for all good citizens must do now the one and now the other.

15. Check attitudinal outcomes. The principal advantage claimed for the activity program is that the pupils will develop such qualities as initiative, resourcefulness, and capacity for self-guidance much more effectively than under a more formal organization of the program. Teachers in charge of activity programs should study the groups carefully to determine just in how far these values are realized. Rating cards on which the desired traits are listed with space for indicating the teacher's judgment of the learner's improvement will be helpful. It is probable that objective tests for the measurement of at least some of these traits will be available before long.

16. Check subject matter and skill outcomes. There is some evidence from controlled experiments that activity programs can dominate the work of the primary grades with as effective a learning of reading and writing as when a formal program is followed. It is well to test pupils at frequent intervals to determine whether this possibility is being realized. For grades above the primary the burden of experimental evidence so far available is to the effect that a systematic program will result in a firmer grasp of subject matter than an activity program. In schools in which activity programs predominate in the intermediate and upper grades, then, it would be well to test at frequent intervals the knowledge outcomes. It is the opinion of at least some of the leaders in this movement that, in general, schools should be slow to abandon subject-

matter schedules in the upper grades, pending more favorable experimental evidence.

17. Keep an activity log. While activity schools are in the experimental stage, at least, it is a good plan for the teacher to keep an activity log. This chart should indicate the main activity, its subactivities, if any, what led up to the activity, problems which had to be solved while engaged in the activity, the materials required, and the outcomes sought. These expected outcomes, including habits, skills, ideas, concepts, principles, attitudes, appreciations, and ideals should be compared with the actual outcomes in so far as they can be determined. (See Items 15 and 16 of this chapter.) Suggestions for further activities to be carried on either in or out of school should also be noted as proof that the activity did lead on.

18. Inaugurate an activity period if not following an activity curriculum. Even if one does not have all of the school work consist of so-called activities, it is well to have certain periods regularly set apart for such activities.

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CHAPTER XII

TEACHING LARGE UNITS

The term "unit plan" has acquired a wide vogue in American education in recent years. It seems to be used in at least two distinct although not unrelated meanings, thus resulting in two different types of units. One type we may call "units of interest." Here the teaching follows, in general, theories of the activity program and the project method (see Chapters X, XI), in that an interest common to the members of the group is made the center of a number of learnings. One plan not infrequently followed (although not approved of by some authorities in the teaching of English) is to use a poem that the pupils like and follow the various learning "leads" that the poem suggests.

Another conception of the term "unit" is represented by the "unit of understanding" upon which Dr. H. C. Morrison lays great emphasis in *The Practice of Teaching in the Secondary School*.¹ Dr. Morrison's theory in brief is that real "mastery" in such fields as the natural sciences and the social studies means the acquisition by the learner of what is to him a new "insight" which actually changes his attitude toward life or at least toward some segment of life, and con-

¹ University of Chicago Press, 2d edition, 1931.

sequently determines in a fundamental way his conduct. Thus if one really grasps the meaning, say, of the Industrial Revolution, one has a changed attitude toward a large number of perplexing social and economic problems. Dr. Morrison believes that, once these new meanings are really grasped, they are learned "for life," so to speak, and evidence from experimentation tends to confirm this belief. It seems probable, too, that the kind of learning which results in these new insights differs in very important ways from the type of learning which results in the mastery of habits and skills. The term "insightful learning" as applied to the former type has been proposed as a means of recognizing and emphasizing these differences.

We shall be concerned in this chapter only with units of understanding,¹ since Chapter X, "The Project Method," and Chapter XI, "Teaching through Activities," deal with questions that arise in organizing learning activities around units of interest.

1. Courses of the science type should be organized in terms of large units of understanding. In such subjects as history, mathematics, and the sciences, it is especially important that the teaching and learning work toward conceptions or meanings that are as comprehensive as possible, having in mind, of course, such limitations as may be imposed by the learner's intelligence and maturity. Dr. Morrison's proposals are

¹ We shall follow Dr. Morrison in this treatment, although he should not be held responsible for our own interpretations of his proposals.

particularly significant in that they call attention to the relative futility of learning or attempting to learn a large mass of unrelated and fragmentary facts. The larger meanings, of course, have their basis in facts or narrower meanings. Watt's discovery of a way in which the power of steam could be made to turn a wheel; Eli Whitney's invention of the cotton gin; Hargreaves's invention of the spinning jenny; and Arkwright's invention of the spinning frame — these are representative of certain facts that have meaning and unity under the larger conception of the Industrial Revolution; it is, however, the larger conception that is the ultimate objective in the teaching of the unit. In the teaching of English, the three-level conception of "good usage" is a most helpful generalization of the comprehensive type; to understand the meaning of "good usage," however, one must be familiar with more specific concepts, such as are represented by the parts of speech and by the terms *subject*, *predicate*, *modifier*, *agreement*, and the like; these more specific concepts have their chief effect upon one's actual speech through the larger concept of "good usage." The effective teaching of algebra is very largely the progressive development of large units of understanding, such as the concept of literal numbers, the concepts of positive-and-negative quantities, the concept of graphic representation, and the concept of the equation.¹

¹ Dr. Morrison includes these and other illustrative units in mathematics and the sciences in Chapter XI of his treatise.

These well illustrate, too, Dr. Morrison's contention that meanings actually mastered (resulting in true insight) are not forgotten.

2. Prepare for each large unit by a pretest. Morrison recommends that the teaching of each large unit of understanding involve first of all an "exploratory" step by means of which the teacher finds how much the learner already knows not only of the large concept but more particularly of the detailed facts or more specific meanings (concepts) from which the new insight is to emerge.¹ The new-type tests are very useful in this stage of large-unit teaching. (See Chapter XVII, "Testing.")

3. Present orally an outline of the new unit. Dr. Morrison uses the term, *presentation*, to designate the second phase of the teaching cycle. This is a brief but highly vitalized sketch or outline (not in the abstract sense of this term, however) of the new unit. The principal aim is to give, so to speak, a map of the new territory to be explored and especially to arouse in the learner an anticipatory interest. Dr. Morrison speaks of this interest as "normal learning curiosity," and he believes that this curiosity must be depended upon very largely to motivate the learning activities. This is the general principle of the assignment applied to

¹One is often quite conscious of the coming together of many learnings into a new insight. One has been working, perhaps for a long time, with details, when suddenly something "clicks," so to speak; from the details the larger revelations emerge sharp and clear; in a quite real sense, a new light dawns.

the teaching of large units, and many of the suggestions given in Chapter V, "The Assignment," should be helpful here. It may be noted again that Dr. Morrison's proposals emphasize the large unit rather than the single-lesson unit; hence the teaching will extend over several periods. This does not mean, however, that the initial presentation by the teacher should consume an amount of time proportionate to the size of the unit. It should invariably be brief. Dr. Morrison suggests fifteen to twenty minutes as a maximum.

4. Test the learners to determine the effectiveness of the presentation. Morrison's well-known Mastery Formula, "Pretest, teach, test the result, adapt procedure, teach and test again to the point of actual learning," applies in part not only to the unit as a totality but also to the various teaching procedures within the unit. Dr. Morrison recommends that a test (preferably of the essay type) be given to the learners on the presentation. This is not to be looked upon as a test of the learners' effort but rather as a measure of the teacher's success in the initial oral presentation. If the presentation has not been effective, the procedure should be modified and a second presentation following the modified procedure should be given, usually only to those pupils who did not do well in the first test, the others going on with the third phase of the teaching cycle. This general plan, test-teach-retest, should be followed until the presentation has succeeded with all learners.

5. Provide as many periods as may be needed for the assimilation of detailed facts and specific meanings. The third phase of Dr. Morrison's teaching cycle is termed *assimilation*. This is really an extended study period or, better, a succession of study periods during which the learner, under the guidance of the teacher, masters the details. Chapter VI, "Directed Study," and Chapter XIV, "Individual or Self-Instruction," include many suggestions that can be applied in this phase of the cycle. It is essential that the classroom or laboratory be equipped with the necessary study materials.

6. Assimilation often requires class instruction. While the mastery of the detailed facts and specific meanings should usually follow the patterns of directed study and self-instruction, occasions will almost always arise, especially if the unit is very large and comprehensive, when direct oral instruction by the teacher is desirable. Most frequently, Dr. Morrison says, the need will be for clear oral *explanations* of topics or meanings that trouble all or most of the learners. (Recall the emphasis that we laid on the development of new terms as a most important function of the assignment.) In some cases, however, subordinate units will arise within the large unit, such as the significance of the invention of the power loom in the Industrial Revolution or the importance of the principle of agreement in good language usage. In cases of this sort, there may be needed what Dr. Morrison calls a *sub-*

presentation. (Dr. Morrison warns against too many sub-presentations because of the danger that the course may revert to the single-lesson unit type, thereby hindering the grasp of the large unit and the emergence of the new insight.) Dr. Morrison also recognizes the legitimacy of a *postpresentation*. Once a large unit has been completed, it is sometimes advisable for the teacher orally to present a closely related unit. A class, let us assume, has grasped the meaning of the Industrial Revolution as it affected social and economic life up to 1920. The new turn that the Industrial Revolution took during the following decade (automatically controlled machinery, "technological" unemployment, overproduction) might well be treated in a postpresentation.

7. Provide individual or group project work for learners who actually master the unit early and for those who are found by the pretest already to have mastered it. Dr. Morrison believes that most learners will proceed at about the same pace through the period of assimilation, especially if the slower learners are given what he calls "corrective teaching." Occasions may arise, however, when a pupil or a group may well be released from work on the unit until the remainder of the class catches up with them. Morrison recommends that these be permitted to work on voluntary projects.

8. Test assimilation. The test of assimilation is actual mastery in terms of understanding. Dr. Mor-

risson believes that the best way to detect understanding and insight (or the lack of them) is to use the "best-answer" form of new-type test.

9. Provide for organization as a class activity. When the tests show that the learners have actually mastered the unit, Dr. Morrison recommends that one or two class meetings be held during which, without books, notes, or other helps, the learners make an outline that will show the relationships among the detailed facts and specific meanings from which the insight has emerged. That the insight *has* emerged has been revealed by the assimilation test, but it now remains to see clearly *how* it emerged — to see it in relation to the evidence upon which it is based. The work of successive organization periods in successive units may, perhaps, lead the learner to Lincoln's famous standard of mastery. It will be remembered that even early in life Lincoln refused to be satisfied in his learning until he could bound the new idea north, and bound it east, and bound it south, and bound it west — and explain it in terms that a child could understand.

10. Close the unit with a recitation. The final step of the Morrison teaching cycle is the recitation. Something of the spirit and technique that we have suggested for the topical recitation (Chapter VIII) may be reflected here. The pupils prepare carefully to present the unit comprehensively much as the teacher did in the initial presentation. What is aimed toward is a clear, straightforward exposition. It may be followed

by questions. Dr. Morrison would not have the presentation by any one pupil interrupted and he would guard against querulous criticism from other pupils.

11. Read Dr. Morrison. The present chapter treats only one of Dr. Morrison's proposals and this in a very brief and cursory fashion. The reader, if interested in the problem of teaching from the fourth grade through the high school,¹ should by all means become well acquainted with Dr. Morrison's book. We regard it as one of the most important contributions that have been made to the literature of teaching.

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¹ Dr. Morrison conceives of secondary education as including all of the school years above the third. In other words, secondary education begins as soon as the learner has a reasonable command of reading and writing.

CHAPTER XIII

TEACHING FOR APPRECIATION

It is helpful to recognize a difference between learning for "understanding" and learning for "appreciation," although the two terms are not actually exclusive in their meanings. In teaching geography, for example, one may wish to lead the learner to an understanding of prevailing winds. Why do the "trades" blow so steadily from east to west? Why do we find a "belt of calms" near the equator? Why are the "prevailing westerlies" not "prevailing easterlies"? Here clear-cut ideas of cause and effect must be built up. The result is an understanding; certain facts have been explained in terms of their causes. But when the learner has at last grasped these relationships, he may have the "glow" of making for himself a new discovery. A bit of the world about him has been reduced to law and order. It is, indeed, a wonderful thing that the rotation of the earth on its axis has an important influence in determining the way in which the wind blows. For long ages, mankind did not have the slightest notion that the earth turned upon its axis — much less that this turning had any effect upon the winds that blow. The scholars and scientists who gradually puzzled through the problem and disclosed the causes

of prevailing winds did a worthy something after all. If the learner's thoughts go in this direction, it is proof that he not only knows, he also feels; he not only understands, he appreciates; to the knowledge that he has learned, an important element of worth and significance has been added.

Teaching for appreciation means a kind of teaching that will develop not only knowledge but also this sense of worth or significance or wonder or beauty. The term is applied most frequently to the efforts of the teacher to insure in the learner an appreciation of beauty as expressed in music, poetry, and the fine arts generally. Appreciation, however, should be almost as important an objective in the teaching of history, science, and the practical arts.

1. Do not attempt to teach your pupils to appreciate that which you do not value or enjoy. The first essential in "teaching for appreciation" is that the teacher himself have a keen sense of the worth or beauty of that which he wishes the learner to appreciate. It is scarcely too much to say that what we call in rather cumbersome phrase "appreciational attitudes" are "caught" rather than "taught."

2. It is generally agreed that appreciation cannot be forced. The teacher can only set the stage. It is the learner who must experience the feeling—for appreciation seems to be fundamentally a factor of feeling. To tune in on a symphony concert and say in effect, "Now it is two-thirty and we shall proceed to

appreciate," in the same way that one would say, "Now it is two-thirty, we shall learn how to do long division," is to fail to make an important distinction between two quite different types of learning. Appreciation does not come at one's bidding.

3. See that the material to be appreciated is suited to the level of the pupils' development. Do not present Scott's "Lady of the Lake" to a fourth-grade class and be disappointed that the pupils do not enjoy it as you do. They are not old enough to understand the poem. It may be almost a waste of time to present the Bach "Prelude and Fugue in C Minor" to groups of adults who, although old enough to understand and appreciate the masterpiece, have not had sufficient training in music to follow the work intelligently. With many people true appreciation of the higher types of art comes very slowly; and some apparently are so constituted as to be permanently impervious to the merits of a great picture, a great poem, or a great symphony. Sometimes, however, through sympathetic teaching, the higher forms of appreciation can be attained even by those who seem quite hopeless at the outset.

4. Prepare the pupils in advance for the appreciation lesson. Frank H. Hayward, a pioneer writer in the field of teaching for appreciation, believes it well to arouse "anticipatory" interest in the appreciation lesson by making far-ahead preparation for it. For example, if one is planning to read a beautiful poem

which one wishes the pupils to enjoy, prepare them for it by telling something of the author and his work, presenting pictures which serve to illustrate the setting, characters, and action of the poem, calling attention in other classwork to a great poem that will be read later which will show them how important is the work that they are now engaged in — in short, attempting in all legitimate ways to arouse a keen curiosity regarding what the poem will reveal.

In preparing a group for an appreciation lesson in literature it is especially important to develop the meanings of new words and phrases that will be encountered in the masterpiece. Real appreciation is often handicapped by the distractions due to unfamiliar terms.

5. Have poetry read aloud. It is generally agreed that great poems and poetic prose should come first through the ear. As a rule, the teacher should read the poem to the pupils in as effective a way as possible before they read it themselves.

6. Allow pupils the joy of discovering beauty for themselves. As a rule, it is well not to tell pupils wherein the artistic merit of a story, poem, or picture lies. Rather encourage them to discover it for themselves. Not all may find beauty in the same lines, and helpful discussions often develop when pupils point out why they have made their choices. On the other hand, it is sometimes well for the teacher to specify the lines or verses that are generally considered to have unusual

beauty and to explain why those best qualified to judge have chosen them. In the same way, attention may quite properly be directed to a musical movement which the untrained listener may not clearly detect but upon which the whole structure of the composition depends.

7. Have pupils select during the appreciation lesson in literature some part or parts worth memorizing. It is well not to force pupils to memorize selections which they do not feel are worth the effort. They should be encouraged, however, to memorize poems or selections from poems that really appeal to them.

8. Use appreciation lessons to conclude units of work. After a class had studied Japan, the teacher concluded the unit by reading to the pupils poems of Japanese life and exhibiting beautiful Japanese prints which had been borrowed from the library. A third-grade class, after having studied Indian life, was taken to the Indian exhibit at the museum. A very successful teacher of history concludes each unit with a showing of an historical film, whenever appropriate films can be secured. It is well to have every unit and every course close, if possible, with a keen feeling not only that something has been learned but that it is a worthy something.

9. Do not regard appreciation lessons as applicable solely to the field of aesthetics. Although music, art, and literature lend themselves particularly well to the appreciation technique, one should not regard appreciation lessons as appropriate only in connection with

these subjects. The writer once observed an excellent lesson in appreciation which had for its subject long division. The teacher showed the class the cumbersome ways in which problems now solved by long division were solved before the development of the method now in general use. An effective means of getting pupils to appreciate what the invention of writing has meant to mankind is to write a brief statement on a sheet of paper; then have a pupil read the statement (silently) and leave the room while you keep the sheet of paper. A second pupil is sent out to get the message orally from the first, who then returns while a third pupil is sent out. Continue in this way until the message has been given successively to every member of the class; then have the last pupil give the message before the class. By comparing the original statement written on the sheet of paper with the statement made by the last pupil, the limitations of oral as contrasted with written transmission will be clearly revealed, for the two statements will be fairly certain to have no resemblances whatsoever. If there are twenty-five or thirty pupils in the group you need have no fear that the "experiment" will not "work."

10. Guard against interruptions and other distractions during the hour of appreciation. If the teacher has been successful in bringing the class to the point of appreciation, it is most unfortunate to have the spell broken by pupils or others entering or leaving the room, or by the necessity of pausing in the development to

open a window, draw down a window shade, or turn on a radiator. Considerate principals are careful not to send messages to the classrooms during class hours except in cases of real emergency.

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CHAPTER XIV

INDIVIDUAL INSTRUCTION OR SELF- INSTRUCTION

For sixty or seventy years, the elementary and secondary schools have been organized largely on the basis of class or group instruction. The schools before that time — especially the elementary schools — did not reflect the principle of class instruction. The teacher sat at his desk and called the pupils to him one by one to receive instruction and to “recite” their lessons. The organization of classes and a larger emphasis upon “simultaneous” instruction were held to be a great advance. The “reform” was found, however, to have certain disadvantages. Not all of the pupils could advance at the same rate; the slower learners tended to fall behind until they were hopelessly stranded; the quick learners, on the other hand, were not stimulated to work to their full capacity and frequently dawdled while the average pupils struggled to catch up with them. With the development of the grading system, too, there came what has been called the “lockstep” in education; in other words, all were supposed to progress through the grades at the same rate. Of course, this supposition did not quite agree

with facts, for the slower learners, finding the pace beyond them, were held back as "repeaters" and usually left school at the earliest permissible moment.

These and other evils led late in the nineteenth century to several proposals looking toward their correction. What is now called "homogeneous grouping" was reflected in several plans based on these proposals. Others involved a return to the older system of individual instruction. In the second and third decades of the twentieth century, two rather elaborately organized systems emphasizing self-instruction won wide recognition — the Dalton Plan and the Winnetka Plan. Both are based upon carefully constructed assignments (sometimes called "jobs" or "contracts") which guide the learner in the mastery of the several school subjects. The learner may then proceed toward mastery at a pace consistent with his ability. Advocates of these and other systems of self-instruction believe that, by granting the learner a certain measure of freedom as to the learning tasks that he will undertake on any given day, a valuable training in self-dependence and self-guidance is afforded.

1. It is the teacher's attitude that is the all-important factor. As in any teaching procedure, self-instruction is likely to succeed in direct proportion to the teacher's interest in having it succeed. If a teacher finds himself in a situation where the technique of individual instruction is forced upon him and he has no faith in its efficiency, his success with the method is improbable

unless he puts himself to great pains to give it a fair trial. If a teacher is free to introduce the method or not as he sees fit, he should study it carefully and convince himself of its possibilities before adopting it.

2. Begin by individualizing instruction in but one subject. To initiate individual instruction, try it in but one subject at first. Since it seems better adapted to "skill" subjects than to "content" subjects, it may be well to start with spelling or drill work in mathematics. It is comparatively easy to prepare the written assignment in these fields. As the teacher gains confidence in the procedure, he can extend its use to other subjects.

3. Use texts prepared for individual instruction if possible. One of the greatest hindrances to the more extensive use of individual instruction lies in the dearth of appropriate textbooks. Some materials, however, have been prepared, including books in spelling, arithmetic, and reading. The many "workbooks" published in recent years lend themselves admirably to self-instruction. Self-corrective practice materials such as those prepared by Charters, Marshall and Wesley, Courtis, Studebaker, the Plymouth Press, and other authors and publishers, are now available.

4. Begin the school day with an organization period. Miss Helen Parkhurst, who originated the Dalton Plan and who probably more than any other one person has been responsible for the extension of individual instruction throughout the world, recommends that the school

day start with a short class meeting of not more than a half hour. At this time the teacher talks over with the group the individual plans of each pupil for the day's work. The purpose is to get each well started on a definite program for the morning. The brief group discussion may well include suggestions from the pupils on one another's work.

5. The contract or job should give a bird's-eye view of the month's work. After the organization period the pupils begin work on their contracts. Each of these constitutes a month's written or printed assignment in each subject pursued under the individual-instruction procedure. One advantage of giving in advance the assignments for a month's work is that the pupils may be on the lookout for current material in the several subjects.

6. After giving out the contracts, orient the student in his work. Many teachers in introducing pupils to the contract plan allow time to have assignments read and then by questioning make sure that the problems involved are understood and that what has already been learned relating to each problem is recalled.

7. Exercise the utmost care in the preparation of the assignments. The most important element in individual instruction is the written or printed assignment. This must be prepared with great skill, being neither too long nor yet too short, too difficult nor too easy. It must be definite, very detailed, and self-explanatory. Pivotal questions in close sequence should be a part of

each assignment. Each month's work in each subject should be divided into twenty parts, each part to constitute what an average pupil may be expected to accomplish in one day. With certain restrictions, a pupil may do all of the month's work in one subject before attempting any other subject if he wishes, but usually the day is divided among a number of subjects. All of the work in all of the month's contracts should be completed before another contract is taken up in any of the subjects. In some schemes for individual instruction, however — the Winnetka Plan, for example — pupils may be in Grade V in one subject and in Grade III in another.

Many of the items discussed in Chapter V on "The Assignment" (pp. 38 ff.) apply to the organization of contracts for individual instruction.

8. Direct the periods of independent work carefully until pupils have mastered the technique of independent study. Until pupils have acquired some skill in independent work the teacher should direct the study carefully. Otherwise, pupils are likely to waste time, lose interest, and fail to master the work. Pupils must be taught the most economical use of the materials with which each classroom or laboratory should be well supplied. The suggestions to be found in Chapter VI on "Directing Study" (pp. 49 ff.) will be helpful in this connection.

9. Encourage pupils to budget their time to advantage. Since individual instruction gives much free

time to the pupil, he must learn how to use this time to advantage. At first the pupil is likely to need definite guidance. The subjects in which he does his best work will probably require less time than those subjects in which he is less apt. After he has followed his time schedule for a week, encourage him to check the efficiency of his plan and to revise it where necessary. Make out a program for pupils who seem to be totally incompetent to organize their work satisfactorily.

10. Be available to all students during periods of independent work. In schools where individual instruction is carried on, pupils usually work in the several laboratories or specially equipped classrooms during the greater part of the morning. The teacher in each should be available to aid pupils who seek or need help during this period.

11. Permit pupils to help each other during laboratory periods. Advocates of self-instruction are inclined to believe that pupils may be permitted to help each other during the study periods, on the ground that such coöperation develops a spirit of helpfulness. The danger of copying others' work is slight; pupils soon learn that to allow others to do the work for them instead of understanding and doing their own work avails nothing, for they must take their tests at the completion of each job or month's work without help.

12. Do not require too much written work. One disadvantage of individual instruction lies in the unusual amount of written work often required of the

pupils. This puts a heavy burden on the teacher since no written work should be required which is not inspected. The skillful teacher can so organize the contracts or assignments that the amount of writing is reduced to a minimum. The workbook plan emphasizing new-type-test exercises is suggestive in this connection.

13. See that pupils do not neglect necessary details. There is a tendency for pupils to pass over necessary details when doing independent work. It is one of the teacher's functions to see that such details as the pupils will have need of are given the necessary attention. Here again a sufficiently well-planned contract will obviate any tendency on the part of the pupils to do superficial work.

14. Use the conference period to introduce new material. Following the laboratory periods there should be a conference or informal lesson period from a half hour to an hour in length, depending upon the age of the pupils. Ideally, these conferences should assume the form of discussions which give each pupil an opportunity to be an active member of a group. The conference period is frequently devoted in part to introducing the new material on which pupils are about to work.

15. Integrate learning during the conference period. Many teachers maintain that the contract plan results in an isolation of units; that pupils fail to connect the new with what has gone before. This need not be the case if the teacher recognizes the danger and makes the

necessary adjustments. The assignments themselves, if skillfully made, will do much toward preserving sequence. Another means of unifying the work is provided by the conference period. At this time the teacher can bring out the interrelations and interdependences among units and even among subjects within one grade.

16. Use the conference period to clear up difficulties. It frequently happens that several pupils experience the same difficulties in mastering certain phases of the work. If possible such difficulties should be anticipated and provision made for them in the written or printed assignments or contracts. Often, however, it is desirable for the teacher to explain difficulties to the group as a whole during the conference period. Some pupils learn more readily through oral instruction than through reading.

17. Connect the conference work with the laboratory work. There should be close articulation between the work done during the conference periods and that accomplished during laboratory periods. The chief purpose, indeed, of the conference period is to make the work done in the laboratory periods maximally effective.

18. Provide tests which are self-corrective. Pupils should be provided with self-corrective exercises so that they may present themselves for the teacher's test only after they are reasonably certain that they have mastered the unit. These tests should be diagnostic in

character so the pupil may ascertain just where he is weak. It is difficult to contrive thought questions which are self-corrective, but it can be done if the teacher is ingenious and resourceful. If a pupil cannot be trusted to check himself accurately, the teacher or another pupil should check his tests with him until he can be depended upon to test himself satisfactorily. The practice materials described in Item 16 of this chapter (p. 139) will often serve the purpose of self-corrective tests.

19. Test the mastery of each unit. When a pupil has completed the month's work in any subject and has succeeded in the self-corrective tests, he presents himself for the final test in the unit. This test should determine accurately whether or not a pupil is ready to go on to the next unit. When pupils fail in the teacher's test it is probably due to their failure to check themselves accurately on the self-corrective tests.

20. Encourage distributed practice. In general, pupils should be discouraged from remaining too long on the assignment in one subject before some work on assignments in other subjects is undertaken. Pupils who show a tendency to concentrate their practice with attendant ill effects should be required to follow a prescribed program.

21. Discourage "cramming" for tests. The method of individual instruction is conducive to cramming. Although certain students of the problem recognize some value in cramming, it should not be possible to

succeed in the teacher's tests *merely* by cramming. The teacher's tests should be so constructed that it will be impossible to make a creditable showing by cramming alone.

22. Provide for reviews. Still another shortcoming of individual instruction lies in its failure to provide for adequate reviews. This difficulty is not inherent in the method, however. The teacher can stimulate review in a number of ways. He can, for example, so organize the contracts in his subject that review is necessary in order to complete the job. If the teacher so constructs his units that each presents a larger whole than those that have gone before, absorbing them in a sense, he is forcing review upon the pupil. Furthermore, he can devote a conference period to review from time to time.

23. Keep a record of daily pupil progress. Both teachers and pupils should keep a daily record of progress so that at any time by glancing at the graph the teacher may learn just how far along a given pupil is toward the completion of his job. Progress charts, with each of the twenty school days in a month (four weeks) indicated horizontally and the several subjects indicated vertically, are satisfactory. The pupil draws a line from one day to the next, according to the number of days' work he has accomplished in the several subjects. The graphs also promote interest. The teacher should confer with pupils who seem to be lagging in any particular subject, encouraging them not to leave to the

end the work on the subject which is most difficult or least interesting for them. Pupils who are used to the technique of individual instruction learn to attack the more difficult subjects first, leaving the subjects which they like best for the latter part of the month. It is probably a better plan, however, to work upon each subject, if not daily, at least every two or three days until the month's work has been completed. Encourage pupils to compare their graphs from month to month.

24. Grade pupils only when unit is completed. Do not attempt to grade pupils until they have completed their jobs or fulfilled their contracts. Then judge them individually in terms of their progress rather than by comparing them with the group.

25. Require short and frequent summaries. In order to provide for review and unification of units of work, pupils should be asked to make cumulative summaries from time to time. The contracts can be so organized that they call for summaries or the teacher can devote a part of the conference period to this purpose.

26. Give at least a part of each day to social and creative activities. Many persons believe that individual instruction fails to develop in the pupils those traits so essential for success in social living. The pupils do not learn to work together. For this reason many schools organized according to the Dalton Plan arrange to have pupils engage in the extracurricular life of

the school in the afternoon with emphasis on athletics. Schools organized according to the Winnetka Plan devote the entire afternoon session of the school day to social activities, including the planning and preparing of auditorium programs, work in fine and practical arts, music, nature study, physical education, dramatics, committee meetings, excursions, club activities, and the like. Much of the afternoon work assumes the aspect of project activity, the morning in these schools being devoted to individual work in the "fundamentals."

27. Avoid emphasizing skills as ends in themselves. Teachers through carefully organized assignments and tests and during conference periods can emphasize the value of skills as means rather than ends. Correlation of subjects will help in this respect. In the Winnetka Plan, where departmental work does not appear below the junior-high-school grades, the teachers of younger children, since they teach all subjects, are more likely to provide for the integration of subjects than are the teachers who specialize in but one subject, as is customary in schools embracing the Dalton Plan. However, if teachers under the latter plan are aware of a possible danger they can easily take steps to counteract it.

28. Emphasize independence, initiative, and responsibility through individual instruction. In theory, individual instruction should help the pupil to find himself, to evaluate his own potentialities, to become self-dependent. It should stimulate initiative and resourcefulness and develop the sense of responsibility. It is

well to keep close watch to see whether these values claimed for the procedure are being realized.

29. Encourage pupils to compete with their own best records. Since individual instruction tends to lose sight of rivalry as an incentive to greater effort, teachers will do well to make provisions for competitive experiences. The social-activities period of the afternoon offers opportunity for contests of various sorts. In order to arouse greater interest in the acquisition of skills and knowledge, the teacher may well encourage the pupils to rival themselves by doing better to-day than yesterday, this month than last month. The progress chart is most helpful in this connection.

30. Remember that the superiority of individual instruction over regular classwork is greatly dependent upon the mental ability of the learner. It is probably true that the brighter the learner the more advantageous individual instruction is for him as compared with regular classwork. The superior pupil seems to save time, avoid ennui, develop his initiative, and benefit most by the freedom which individual instruction entails. The average pupil seems to progress as well as, but not much better than, he would if working in a regular class. There is some evidence that dull or slow learners benefit more from regular classwork than from individual instruction.

31. Stimulate pupils to work up to capacity. In theory, one of the outstanding advantages of individual instruction is that it permits pupils to progress at their

own rate. The bright are no longer held back until the average catch up, nor are the dull left hopelessly behind. The teacher should see to it, however, that each pupil works up to capacity, *i.e.*, that the dull, the average, and the bright progress as rapidly as their ability permits.

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CHAPTER XV

DRILL

The word "drill" is not popular in contemporary educational discussions, and there are probably good reasons for its unpopularity. It has been associated frequently with the deadly routine repetition of processes that have been deemed important for pupils to master. It is sometimes assumed that all drill must be of this unintelligent sort and that, in consequence, children will dislike it and dislike also the school and the teacher that impose it. As a matter of plain fact, activities are seldom distasteful merely because they are repetitive and expert teachers are often able to make the necessary drills among the enjoyable experiences of school life. The learning of a foreign language inevitably involves a good bit of repetition — yet it is said of a famous teacher of Hebrew that his introductory course was for his students a series of hairbreadth escapes. Some wit has added that an incompetent teacher may easily turn a series of hairbreadth escapes into what most people imagine a course in Hebrew grammar to be.

1. Each term or semester, among the items to be learned, list those which will require drill. At the

beginning of each term it is well for the teacher to list the items in the various subjects which are likely to require drill. Some subjects will call for more drill than others. In the lower grades, for example, arithmetic is essentially a drill subject, whereas art calls for little drill. Some classes will need more drill than others, the dull groups requiring more than normal groups, and bright pupils usually requiring less than either dull or average groups. Generally speaking, drill is more frequently necessary in the lower and middle grades than in the upper grades and high school because it is in the former grades that the skills are developed which form the foundation for further learning.

2. Introduce some drill early in the semester. It is well to begin drill early in the term. The first work of this type should be concerned with those items in which the class is not "up to grade" — some of them items which have been forgotten over the long vacation. It is good practice to give diagnostic and inventory tests at the beginning of the term (Chapter XVII) and provide an opportunity for individual remedial drill wherever needed on work of the grades already completed.

3. Select for drill only such material as is worth making thoroughly automatic. Pupils should be drilled only upon material that has permanent value. There are many skills and many items of knowledge which children need to memorize and even "overlearn" if they are to be retained and subject to recall throughout life. It is extremely wasteful to require memorization

of material which is of only passing significance. It was once the custom to drill in spelling upon long lists of words chosen with little reference to the frequency with which they would be used. It is now believed that the time thus spent might have been put to much better use. On the other hand, there are some obvious objections to teaching only such words as are frequently used. There is, however, a happy medium between these two extremes. A recommended practice is to have minimal spelling lists which embody the words most frequently used and then provide supplementary lists of words less frequently used. The former may be required of all. The latter give opportunity to other brighter learners to extend their vocabularies.

4. Be sure that the learner knows what to do. One of the chief difficulties which the younger children have with drill is that they lack clear ideas of what is expected of them. Mere repetition without insight is of little if any value.¹ Sometimes a drill period is largely wasted because the teacher has not taken enough time at the beginning of a new type of drill to make sure that the procedure required is understood by the pupils. For example, in a drill lesson on uneven division, a large number of the pupils in the group showed clearly that they did not have sufficient insight into the process to respond correctly. Time after time responses like the following were made: 4's into 19, 16 and 3 over.

¹ THORNDIKE, E. L. — *Human Learning*, pp. 13 ff.; The Century Co., New York, 1931.

Each time, instead of calling the attention of the group to the fact that an additional step was necessary after finding the multiple and explaining just what it was that many pupils omitted, the teacher stopped to ask the pupil who failed, "How many 4's in 16?" and the like. Not only did pupils continue to make the same mistake, but the same pupils failed again and again in the same way. Much time was wasted during the lesson, and relatively few pupils derived any benefit from the drill period.

5. Make clear the need of the skill to be drilled upon.

If possible, make the learner conscious of the need for the skill that is to be developed. The mastery of certain arithmetic skills may be "motivated" through activities with school lunches, school banking, school parties, and the like. It is also possible to bring in outside activities, such as counting one's change when going on an errand. It will be more difficult, however, to make the child feel the need of the desired degree of speed and accuracy. It is probably best to indicate to the children the speed and accuracy achieved by most children as indicated by grade norms. Then stimulate the children to surpass these norms as far as possible and to surpass their classmates and other comparable groups, but most of all encourage them to surpass their own "best records."

6. In fixing motor skills, initiate the drill by having the pupils observe an expert worker. A model is a good device for fixing motor skills such as handwriting

and typing. The pupils should be encouraged to keep their attention on the outcome desired rather than on the motions required to achieve the result. In handwriting, it is necessary to call the attention of the learner to proper posture and to correct pen-holding positions, but for the most part the pupil should center his attention on the type of writing that he is trying to achieve.

7. Develop in the learner an ideal of mastery. One of the virtues of the schools of our grandfathers was the premium set upon mastery. Even to-day the schools of Europe emphasize the ideals of fine workmanship far more than do American schools. The learner should as a rule be encouraged to do passing well whatever he undertakes. In education "near enough" is not good enough. In the old days, it is true, the perfect handwriting was more akin to drawing than to writing and we now believe that speed and rhythm are more important than flourishes and shadings. But while there is a certain quality that has been decided upon as desirable, teachers would do well to encourage accomplishment beyond the standard to provide against the days of no practice and much forgetting and also to provide against the "leveling downward" tendency which is bound to result if all are satisfied to rest on their laurels when a standard based on averages has been reached. There is no such thing as "near enough" in such subjects as arithmetic. Mastery in arithmetic is accuracy; and it is more than that — it is accuracy combined with speed.

8. Supply the correct response if an error is made. In drill, when an incorrect response is made, give the pupil the correct response rather than take time then to have him think it out. If a child responds 11 to the stimulus 9 plus 3, the teacher should tell him the correct answer or have another pupil do so. It is not good practice to ask: "9 plus 1? 9 plus 2? 9 plus 3?"

9. Remember to come back with the same problems to pupils who fail. The effective teacher keeps in mind the pupils who fail and the particular items in which they failed, so as to give them the same questions again. Various devices are available. In using flash cards in word drills and number drills, it is well for the teacher to have a list of the pupils at hand and to jot down the items missed beside the name of each pupil making an error, and then when the turn of any of these pupils comes again to make sure that the right response is given.

10. Provide for attentive repetition. Mere repetition avails little. It is attentive repetition that matters. Drill should never be lifeless or mechanical. The learner must know whether his response is correct or incorrect. The necessity for securing attention to the repetitions involved in drill is recognized by skillful teachers in using a variety of devices which will insure the pupils' attention and relieve the monotony which is otherwise inevitable.

11. Motivate drill if you would have attentive repetition. The devices mentioned in the preceding para-

graph are a means of motivating drill. A teacher has been drilling a small group on the addition combinations. The flash cards have been used in the customary way for some time and the attention begins to wander. It is surprising how interested every one will become if the teacher says, "Now let us see how many can do five of them without failing." After this innovation fails to hold the interest, to allow one child to choose his successor will liven things up once more. Competitive exercises are often effective. Arithmetic matches have all the values of the old spelling match without having the latter's great disadvantage, for people do need to solve arithmetic problems "mentally," while one ordinarily spells only when one writes. Wherever possible, intrinsic interests should be appealed to; that is, the pupil should recognize the *need* for the skill that is being mastered. This is not always possible, however, and the teacher must appeal to extrinsic interests. He suggests forming a correspondence club for the purpose of writing letters to pupils in another school, possibly in another city. The interest in the club motivates drill in English, spelling, and penmanship. Marks or grades are appeals to extrinsic interest with which some reformers would dispense along with diplomas and degrees. These devices, however, are somewhat analogous to the pay envelope in life, which most reformers would probably vote to retain. We should not do our adult day's work through interest in our wages but through interest in the job itself. If the days come now

and then, however, as they are wont to do, when we lose interest temporarily in the work itself, we should be grateful to the pay envelope and other factors that hold our attention to the task. So it is in school. We may prefer to have the pupil interested in his school work for its own sake, but attend to it he must, even if by virtue of an extrinsic motive.

12. Progress charts help to sustain interest in drill. Progress charts serve to motivate drill in grades above the second. Beginning with the fifth grade, pupils can be readily taught to chart their own progress from time to time. In some grades it is effective to chart the progress of the boys against that of the girls provided, of course, that neither the one group nor the other is likely always to be superior. Whether or not progress is charted, groups and individuals should be kept informed as regards their standing.

13. Provide for multiple-sense appeal. Multiple-sense appeal is well illustrated in teaching spelling where the learner sees the word, hears it pronounced and spelled, spells it orally, and writes it. It is probably well to appeal to as many of the sense channels as possible, although this is not nearly so important as to insure attention to the repetitions and a "will to learn."

14. Make use of self-practice devices. Self-directed practice is important if it does not become mechanical and inaccurate. There are a number of practice devices on the market which enable pupils to guide their own

drill, test themselves, score the results, diagnose errors, and apply remedial measures. Teachers can make practice sheets for pupils according to their individual needs.

15. Drill most on the difficult items. All but the most recent textbooks have failed to discriminate between easy and difficult items in the amount of drill required. Now, however, we know that there are certain items which practically all learners find more difficult than others and the best books provide for this difference. If the texts supplied to the teacher and pupils make no provision for these differences, the teacher can make up for this deficiency by supplying the appropriate amount of drill where it is needed.

16. Remember that drill outcomes are very specific. Drill improves retention of the particular items drilled upon; it cannot be depended upon to fix related but different items, although these items are benefited sometimes through "transfer." For example, that a child knows the sum of 3 and 2 does not always mean that he knows the sum of 2 and 3; and while he knows 3 sevens he may not know 7 threes. In some cases, each separate item must be taught and drilled upon. Many bright learners, however, quickly master $2 + 3$ after having learned $3 + 2$, and there are some pupils who seem to learn the one when they learn the other. This ability cannot be taken for granted; it certainly is not possessed by many pupils.

17. Determine drill results through testing. Measure the results of drill. It is surprising how a daily

drill, even if extended only over a very brief period, will improve one's skill. Many teachers fail to recognize this because they do not measure the skill before and after drill.

18. Do not regard drill as a procedure especially adapted to dull children. Habit formation is economical and is the result of attentive practice. All children, regardless of their intellectual level, need to develop many specific habits during their school days. Many of these must be developed in the lower grades. No doubt bright children require less drill than dull children but all have need of some systematic drill. Incidental learning will not fix the skills which make up the necessary equipment of adults. As a rule, skills must be "overlearned"; that is, they must be attentively practiced beyond the point of apparent mastery.

19. Arrange for short drill periods. Experimental studies have shown that, as a rule, short practice periods are preferable to long periods. Of course the periods can be too short, but even periods as short as three and five minutes result in significant improvement. Probably periods of from ten to twenty minutes are most effective for elementary-school pupils.

20. In the initial stages of learning a skill, drill regularly and frequently. Especially where small children are concerned, drill periods should occur daily or oftener in the initial stages of learning a skill. It is the regular, frequent, short drill period that yields the largest returns. For example, if one is beginning to

learn to play the piano and is told to practice six hours a week, he will probably do better to practice 3 twenty-minute periods or 4 fifteen-minute periods distributed evenly throughout the day rather than to practice for a period of one hour daily or even for 2 half-hour periods.

21. Distribute practice at increasing intervals after the skill has been acquired. To provide against forgetting, practice must be continued even after the skill has been acquired. These later drill periods should come at regularly increasing intervals.

22. Provide for individual differences in drill. This item has already been touched upon in connection with a number of others, but its significance warrants special mention. In our large classes, almost unavoidably many pupils waste time in repeating what they already know well, when they should be practicing upon those skills in which they are weak. Some textbooks encourage this condition. The teacher, however, should regard each pupil as an individual and give him the type of drill that he needs. To administer drill without regard for individuals is almost as unintelligent as always to administer the same drug regardless of the disease.

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CHAPTER XVI

THE REVIEW PROCESS

In many types of learning it is essential to go over the materials of which an initial mastery has been achieved in order to see the details in their relation to one another and organize them into a coherent whole. This process is known as the review. The term *overview* would more clearly suggest the essential nature of the process. It differs from a drill process in that it does not aim at the fixing of habits or skills, but rather works toward a more comprehensive understanding of what has been learned. It is essentially important in the content studies, such as geography, history, and the sciences.

1. Provide for systematic reviews at the close of each large unit and at the close of the course. Unless specific provision is made for them, reviews are likely to be neglected or given too little time.

2. A review should be in many ways a new view. To be successful a review should do more than go over the detailed materials previously learned. Its emphasis should be upon the organization of these details in such a way that the learner may "see the woods as well as the trees." A class has been living in imagination

through the important events that brought about the Industrial Revolution. The review process would not only summarize these events but show how they interacted — how the development of textile manufacturing in England stimulated cotton growing in the Southern states; how the invention of the cotton gin helped manufacturing in England; how the growth of cities was related to the development of manufacturing; what contributions steam navigation and the railroads made to the great movement.

3. In reviews relate the long known to the recently learned. Reviews should be cumulative, a sort of house-that-Jack-built structure. Each review is concerned with larger and larger units. The more numerous the associations between new and old subject matter, the greater the likelihood not only that the new will be remembered but that it will form an integral part of the learners' growing experience. A third-grade class has been studying Dutch life. The appearance of the country, the canals, the houses, the dress of the people, what they do, the play activities of the children, and a number of other interesting and concrete details have been presented. A review may well be a summary of the most important differences between Dutch life and the life that the learners themselves live and the lives of other people about whom they have studied.

4. Reviews are likely to reveal pupils' strengths and weaknesses. An important purpose of the review

is to determine pupil strengths and weaknesses. If details have been poorly taught and inadequately learned, the ineffectiveness of the teaching and learning will be reflected in the review and the teacher will be in a position to improve his next efforts to teach the same materials — that is, if he is careful to note where the weaknesses lie. The review also will bring out deficiencies in the more mechanical phases of learning — such deficiencies as misspellings of new terms and errors in factual material of a specific sort, *e.g.*, place locations in geography and time locations in history.

5. Assign the making of an outline for review purposes. A very important part of the review exercise is the detailed construction of topical outlines. This not only requires going over the materials, but it involves a series of judgments as to the relation of large topics to subordinate topics. The associations built in through this process are of incalculable value in remembering what has been learned, and the successive exercises may, under skillful teaching, so impress the learner with the value of organizing what he learns that he will apply the procedure to other fields.

6. Encourage pupils to review by calling for summaries. An effective review exercise is summarizing or stating in a few terse sentences the outstanding features of the unit which the learner is attempting to master.

7. As a phase of the review process learners may prepare questions covering the material taught. After

the teacher has given several assignments involving questions which will stimulate the learners to discover relations and organize materials under large heads, the procedure may be varied by having the pupils prepare such questions. Besides aiding the learner in reviewing the work, this device may suggest to the teacher ways in which his own assignments may be improved.

8. Arrange to cover course requirements in sufficient time to permit an ample review of each unit and of the term's work as a whole. The value of a course is decreased if no provision for review is made at the end of the term as well as at intervals during the term. Not only does the final review period reveal to the learners their weak points; it also enables them to see the relation of the parts to the whole as they cannot do until the course is completed.

9. Motivate review through group and individual rivalry. In order that the review may be lively, it is well to encourage the pupils to compete with one another in preparing outlines, review-study questions, summaries, summarizing tables, charts, graphs, and the like. Many teachers find it helpful to divide the class into groups or teams of as nearly equal ability as possible and then to arrange to have groups compete. Group rivalry is usually more desirable than individual rivalry.

10. Adapt review work to the individual differences of the pupils. In conducting reviews it is well to

provide difficult exercises which require as much thinking as the brightest learners can do and to assign these exercises to the ablest pupils. If the group is heterogeneous, assign the slower learners exercises which are within their capacity. The majority of the exercises should be adapted to the average pupil ability:

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CHAPTER XVII

TESTING

No phase of teaching has undergone so remarkable a development during the past twenty years as that which is concerned with testing and measuring the results of teaching and learning. The development of the achievement test has been in itself an American educational achievement of the first magnitude. By using standardized achievement tests the teacher can learn whether his pupils have reached the "standard" of the grade for the subject in question. This standard is determined by giving the tests to large numbers of pupils enrolled in the grade in question and determining the average or median score as well as the range of scores. A danger to be avoided in the use of standardized tests is to assume that, when the class median reaches the standard, one's pupils have done as well as they could or should. To standardize on the basis of average achievement is to standardize on the basis of mediocrity. American standards for tests in the fundamentals are probably too low; at least American tests when used in representative schools of Canada have to be revised upward, for their standards are well below what the average Canadian pupil can easily accomplish, grade for grade. The same is said to be true of pupils in the schools of Scotland.

One of the important results of the development of standardized achievement tests has been the parallel development of many new techniques for testing. These can be used by the teacher in the construction of nonstandardized tests to be used in his own classes.¹ In this chapter both "new-type" tests and "essay-type" examinations will be considered.

1. Construct tests carefully. It is well to make out test questions far enough in advance so that you will have time to forget the particular answers you had in mind when you designed the test. Then, just before giving the test to the pupils, try it on yourself to see if any ambiguities are evident.

2. The purpose of each test should be clear in the teacher's mind. Ask yourself first for what purpose you are giving the test and then construct a test that fulfills the purpose you have in mind. For example, a young teacher who wished the pupils to go over lessons of the preceding day always gave a five-minute written test at the beginning of the class period on the work of that lesson. The pupils soon came to spend all of their study time on the review work and neglected the assignment for the day. To prevent this the teacher asked two questions in the daily test, one on the review and one on the assigned work. The result was that the pupils budgeted their time satisfactorily, spending some of it on the review but not neglecting the new work.

¹ Specific directions for making "new-type" tests will be found in Charles Russell's *Classroom Tests*; Ginn and Co., Boston, 1926.

3. Give inventory tests. The "inventory" test is a test to determine what the learners already know of the unit to be taught or how far they have already mastered certain skills. It is well to give these tests in such subjects as history, geography, and arithmetic before beginning a course in one or another of these subjects with a new group of pupils. New-type tests are very useful here.

4. The advantage of using standardized tests. When good standardized tests are available, it is well to make use of them. They will be more reliable than those one will ordinarily construct; by means of them pupil achievement may be determined in terms of what pupils of the same grade may be expected to do; and acquainting one's self with the best standardized tests through administering and scoring them will improve one's own skill in constructing classroom tests.

5. Give diagnostic tests. To determine needs or lacks of the learner, diagnostic tests may be used. Results of such tests indicate weaknesses or strengths. To use the Freeman Handwriting Scale is to know *why* the pupil's penmanship is poor in addition to knowing how poor it is. It is of little value to say to a pupil, "Write better." It is much more helpful to say, "Slant your letters less," or "Write more lightly," or "Leave more space between the words," as the case may be. In arithmetic it is something to know that a pupil or a class is weak in long division; it is far more to know in just what phase of the process the weakness lies.

6. Beware of tests answered at home. Some teachers give out test questions to be answered at home and handed in later. Often the work handed in does not represent learning on the part of the pupil. The paper may represent the work of the entire family and perhaps sympathetic classmates as well. In giving standard tests, observe accepted test conditions or do not regard the procedure as an examination in the ordinary sense of the word.

7. Be sure your test is valid. Avoid trying to measure too many different abilities in any one test. If you wish to measure reasoning ability, grade pupils on their ability to determine the correct procedure rather than on getting the right answer. In fact, it would be still better in this instance to require no computations at all but simply have the operations indicated. If, on the other hand, you desire to test accuracy in computation, use abstract numbers and allow plenty of time for computation. If you are testing progress and wish to determine the most difficult types of problems that the pupils can solve, arrange the examples in the test from easy to difficult, having some examples so difficult that you are reasonably sure no pupil can work them. If you are testing speed, make the test so long that no pupil can finish it in the time allowed. If you are testing the ability of pupils to organize geographical data, score them on the geography, not on the English, punctuation, spelling, and the like. If you are testing the ability to write

well in a practical situation, then grade penmanship in written work. If, however, you merely wish to determine the quality of their penmanship at its best, do not burden the pupils with the task of organizing their ideas at the same time. All this has reference to specific tests. In a comprehensive essay-type examination it is well to measure the combination of specific abilities.

8. Do not regard tests as ends in themselves. There are three legitimate reasons for testing: to improve one's instruction; to motivate the pupils' learning; and to measure growth and achievement. Testing, in and of itself, is of little value unless the results are followed up. It is a good plan to go over the tests with the learners soon after the testing period. Unless pupils know wherein they are weak they are unlikely to improve. Very often test results indicate to the teacher weaknesses in the teaching. Where many pupils fail on the same question it is likely that the teaching has been indefinite.

9. Require formal, final examinations. Periodical, comprehensive examinations are desirable especially if they necessitate reviewing the work of the term. Such examinations should do more than test the learner. They should be an incentive to review the term's work. Do not exempt even the bright pupils from the final examination, for by so doing you deprive them of what should be an important learning experience. Frequently by means of reviews weaknesses are revealed which can be removed before the examination period.

By means of review, too, an opportunity is provided for the absent pupil to catch up with his classmates. The great importance of the review, however, lies in the fact that it involves (or should involve) a reorganization of materials already learned as details but now to be thoroughly knit together. (See Chapter XVI.) The final examination should be given before the last day of the term so that the corrected papers may be returned and difficulties discussed. Otherwise the pupils will not know wherein they failed.

10. Give a test at the close of each period of supervised study. It is important that each supervised-study lesson be followed up with a test of some sort. Otherwise the teacher encourages indefinite work and much time is likely to be wasted. Not only is it important for the teacher to know what has been accomplished during the period by the individual pupils, but it is desirable for the pupils themselves to know how well they met the requirements of the course.

11. Use both objective and essay-type tests. Since the advent of the objective or new-type test, many teachers have adopted them to the exclusion of the essay examination. Both types of tests are desirable. While it is doubtless true that the new-type tests, such as the true-false, completion, multiple-choice, and matching tests, are likely to be more comprehensive and are much more fairly and easily scored than is the essay test, they do not provide an opportunity for pupils to organize their ideas. The new-type tests also en-

courage the memorizing of unrelated facts which are likely to be forgotten soon after the test has been taken. The essay-type test, on the other hand, although difficult to grade accurately, provides a stimulus and opportunity for the pupil to organize his own knowledge into larger wholes. Since, then, there are advantages and disadvantages in both the objective and the essay tests, it is recommended that final examinations include some exercises of the objective type and some essay questions.

12. Give each pupil a copy of the test. If possible, examination questions should be mimeographed or run off on one of the many other kinds of duplicating machines now available. It is highly desirable that each pupil have his own copy of the test. To dictate questions wastes time. Often pupils in some parts of the room have difficulty in reading questions written on the blackboard. Although it is said that pupils do nearly as well when true-false statements are read orally twice as when they are printed, nevertheless the oral procedure takes more time than the other and is more of a strain on the pupils. If tests are mimeographed, be sure to go over the items before giving the test so that any necessary corrections and explanations can be readily made to the pupils before they begin work.

13. Weight the various parts of the test. Pupils should know the amount of credit to be given to each part of the test so that they may budget their time

accordingly. This is desirable in order that the pupil may cover the most important items, using whatever spare time is left for filling in details. If true-false statements are used, indicate to the pupil whether the exercise is to be scored *rights* minus *wrongs* (the approved method) or merely by counting the number of right responses. If papers are scored *rights* minus *wrongs*, the pupil is not penalized so much for omitting items as when he guesses at those he does not know. If, however, the score is the number of right answers, no difference is made between items omitted and those answered incorrectly.

14. Guard against cheating. There should be no opportunity for pupils to cheat in an examination. The teacher must share the blame if his pupils are dishonest in taking a test. It is necessary to use great care in this matter especially where objective-test exercises are used, for it is very much easier to copy from one another in tests of the objective type than it is in tests of the essay type. If the teacher places a higher premium upon honesty than upon scholarship, he will do much to eliminate the tendency to yield to the temptation to be dishonest during examinations.

15. Keep pupils informed regarding the passing of time. If the test period is a long one and the clock is not easily seen by all pupils in the room, keep the pupils informed regarding the time by indicating on the blackboard when the period is one quarter, one half, and three quarters over.

16. Score the test papers yourself. Although the scoring of papers takes time, it repays the teacher to do this himself because only in this way can he get a picture of the accomplishment of each learner. The teacher also finds the parts of the test that were answered best and those most inadequately answered. These facts offer a basis for the improvement of instruction. If objective tests are used and if the teacher has pupils correct the papers by using a scoring key, those correcting the tests should be unacquainted with the pupils whose papers are being graded. The teacher should so tabulate the test results that the number of pupils failing in each item may be indicated, thereby revealing the strengths and weaknesses of the teaching as well as the units or topics that may need further attention.

17. Score all answers to one part of the test before going on to the next. It will save time in tests made up of true-false statements, completion exercises, and the like if all the true-false items in all papers are scored first, then the completion exercises, and so on. It is also desirable in scoring questions of the essay type to check all answers to one question before going on to the next. It is further suggested that in essay tests the papers be shuffled after each question is scored. This prevents the tendency to score an entire examination unusually low because it follows a particularly good paper or *vice versa*. It also eliminates the tendency to rate all answers of one pupil higher or lower than is

justifiable because the preceding question of the pupil's paper was answered unusually well or poorly as the case may be.

18. Do not give the same test to different sections at different times. It is unfair to give the same test to two or more sections at different times because some pupils are likely to talk with those in other groups about the test. Even if the test be so long that but a few items at most will be remembered, nevertheless the pupil can give a general idea of what the test is like and thus give those taking the test at a later time an advantage over former groups.

19. Appoint a time during which individuals may discuss their test papers with you. Always be willing to discuss the pupils' test papers with them. After having discussed the outstanding weaknesses during a class period as soon after the testing exercise as possible, set a time for conference with pupils who have questions which would waste the time of other pupils were they discussed in class. There will usually be some pupils who, because of embarrassment, refrain from raising in class questions concerning their answers. The teacher should never change the grade of the pupil unless an error in computing the grade or an error in correcting the work is revealed. The pupils must not feel that by complaining about the ratings received they will secure a point or two more.

20. Save tests. Teachers should save copies of tests in order to improve upon them. Good objective

tests are very difficult to prepare. The teacher should mark on a blank copy of the test any changes recommended in the light of the responses made by the pupils. In this way the teacher learns to improve his tests.

21. Allow choice. In essay-type questions it is usually desirable to allow the pupils some choice regarding the questions to be answered. It will no doubt be true that the teacher will wish all pupils to answer certain of the questions and yet be willing to permit choice among others.

22. Secure and maintain good testing conditions. Be sure that all materials are at hand. If pupils are to use ink, see that all fountain pens or inkwells are well filled. If the test is to be taken in pencil, provide each pupil with two well-sharpened pencils. Have sufficient paper passed so that pupils do not have to lose time in getting what they need. Have all pupils start at the same time. Permit no unnecessary interruptions. If a pupil has a question he deems important, go to his desk to answer it so as not to disturb other pupils. Have some definite supplementary work already assigned for pupils who finish the test ahead of time so that they will not waste their time or distract others. It is usually undesirable to permit pupils to leave when they have finished ahead of the others since, aside from creating a commotion, this practice is likely to make the slower pupils feel hurried and nervous. Since the brightest pupils usually finish first, those who work slowly are made to feel inferior if left alone.

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CHAPTER XVIII

PROFESSIONAL ETHICS

Teaching involves personal relationships of a very important type. In school systems that are highly organized the teacher has official relationships with principals, supervisors, and school executives. All too frequently the administrative hierarchy becomes a professional hierarchy — that is, a higher professional prestige attaches to the administrative positions than to the teaching positions — and the teacher is expected to be content with a subordinate status and to regard as a professional “promotion” a transfer from the classroom where one does the actual first-hand work of teaching boys and girls to an office where one sits at a roll-top desk and dictates to a stenographer! While many school executives do everything in their power to dignify the actual first-hand work of teaching, a large section of our profession and a much larger section of the public still have a distorted scale of values regarding such matters. In spite of all this, however, even an administrative hierarchy must be respected as such, and upon the part of the teacher certain attitudes and activities must be governed accordingly.

The teacher has also professional obligations to his fellow workers, to the community which he serves, to

the parents of his pupils, and above all to the pupils themselves. In most of these relationships, a common-sense application of the standards of good taste and good breeding is ordinarily sufficient to keep one from doing the wrong thing at any time, but there are some situations to the demands of which even well-bred men and women may not be immediately sensitive.

1. Regard what you learn about your pupils as confidential. Do not divulge personal information about your pupils. Such information is yours as a professional privilege, not as a personal right. Avoid discussing pupils with parents other than their own. At the boarding house, or at bridge parties, or at church or other socials, do not gossip about the intelligence quotients or the scholastic standing or the mischievous propensities or the moral delinquencies of your pupils. Data concerning the personal history of pupils which may be necessary for school records should be filed for purposes of reference only, should not be discussed even among teachers, and in general should be available only to the principal.

2. Coöperate with the principal and fellow teachers. In any organization where people work together in daily contact, there must be coöperation, give and take, willingness on occasion to be a "good soldier." Some people are naturally dogmatic, domineering, and individualistic. Some of these are, constitutionally, nonconformists. Now some nonconformists have played a mighty rôle by forcing reforms in customs and re-

quirements that have stood in the way of progress. It is well to discriminate between a reasoned refusal to accede to unreasonable rules and an unreasoned determination to have one's own way. In either event one is likely to make a nuisance of one's self, but in the former case the end may well justify the means. Only, if one intends to become this kind of reformer, one should be open and aboveboard about it.

3. Do not make requests of a higher administrative authority over the head of the immediate administrative superior. In transacting official business, do not appeal to the superintendent over the head of the principal until you have made every effort to bring about an understanding. In the event of failure to reach a mutual understanding, notify your immediate superior of your intention to take the matter to a higher authority. Do not take requests directly to a school board except as open formal appeals from the decision of the superintendent. *Never take requests to individual board members.* Appeals to a public-school board or the board of trustees of an endowed school or of a college should be sent in writing to the secretary of the board.

4. Attend all meetings to which you are called by executive and administrative officers. Extend administrative officers the courtesy of attending all called or regular meetings. Usually a principal or superintendent will give advance notice regarding meetings so that one may make engagements accordingly. Thoughtless little things are sometimes discourteous; for example,

do not go to a meeting in your school wearing your out-of-door wraps, for this suggests that you are in a hurry to leave; and resisting an imperious urge to look at your watch is splendid self-discipline. Should it be impossible to attend a meeting to which you are called, courtesy demands that you explain the situation and ask to be excused.

5. Extend a welcome to parents who visit the school.

Be courteous at any cost. Make parents feel that they are welcome when they visit the school. If parents are given to understand that they are in the way when they call at the school, it will be difficult to get them there when an interview is desirable. Much good can result to pupils through the coöperation of the parents and the school. Be ready at any time to inform a parent concerning the progress of his child.

6. Avoid engaging in political and religious controversies in the classroom. The American public school is built upon the ideal of religious tolerance; to proselyte for one's own faith or to criticize the faith of others would obviously be out of place in the classroom. Sometimes it is essential in the upper grades and the high school to discuss controversial political issues. The teacher should sedulously preserve the right of freedom in teaching as long as this means the fair presentation of the pros and cons of disputed issues. It is questionable ethics to use a privileged position deliberately to indoctrinate a group of learners for or against any issue upon which intelli-

gent opinion is divided, no matter how firmly one may be convinced that the truth is on the side that one espouses.

7. Do not tutor pupils in your class for remuneration.

It is regarded as unethical to accept pay for tutoring pupils in one's own class. Whatever one does for one's pupils should be done without compensation from them. There is probably no highly successful teacher who does not work overtime. If you wish to tutor children after school to increase your income there are likely to be children from schools other than your own in need of this help.

8. Do not seek press notices. It is regarded as unethical to engage in self-advertising. Worse than this, the practice reveals execrably bad taste. A "climber" in the field of administration quickly lost caste when his fellows learned that he had arranged in the hotel headquarters of a convention to have himself frequently "paged" through the lobbies. A common form of such advertising is found in self-inspired press notices. The teacher who is continually getting himself and his school activities into the newspapers is engaging in professionally questionable conduct. On the other hand, when some special work is being carried on at a school or when some program is given which should be recognized by the press, publicity may be desirable and thoroughly legitimate. In such cases administrators should be meticulous in giving credit to the persons to whom it belongs.

9. Never accept a gratuity or favor for being instrumental in having textbooks or school equipment adopted. Teachers should never put themselves under obligations to publishers of school material by accepting favors from them. For a teacher to accept anything having intrinsic value from persons seeking an order for school materials is plain graft; to accept social or professional favors is morally just as bad.

10. Do not discuss unfavorably one member of your profession with another. It is of course professionally unethical to speak disparagingly of fellow teachers or administrators. It sometimes happens that, although no direct comments are made, the pupils are led through statements of their teachers to make inferences concerning other teachers. For example, a teacher who says to a class, "You should have had that last term," "What were you doing last year when you did not learn to do thus and so?" "No teacher should keep you late for my class," is indirectly criticizing a fellow teacher.

11. Regard contracts as moral obligations. Just as a teacher would not permit a breach of contract on the part of the school system that employs him, so he should not expect to be released from the obligations of his contract. If one is offered a better position and leaves one's present post before the expiration of the contract, his conduct is morally indefensible unless the contract has been voluntarily canceled by the school board. Superintendents frequently recommend such

cancellation if the position can be satisfactorily filled by another appointment. This practice, however, does not justify a teacher in regarding his contract as other than a moral and legal obligation.

12. Leave your classroom each day in such a condition that a substitute could continue your work readily. It is a matter of consideration for your pupils' welfare to leave in your desk each day such helps as a substitute teacher would need were he to continue your work. These helps should include the class register, seating plan, program, a brief outline of the term's work, and brief plans for the lessons of the week.

13. Leave in the school from which you are transferred materials which will be helpful to your successor. For similar reasons teachers should leave in the school materials that have been collected during school time, presented by pupils, or paid for by the school, as well as any materials that have been given to them for use in the school which they are leaving. Teachers should also leave in the classroom such records as will enable their successors to carry on the work of the school with as little loss of efficiency due to change of teachers as possible.

14. It is unethical to try to secure a position held by another teacher. Under no circumstances should a teacher apply for a school position that is not known to be vacant and open to applicants. The profession of the teacher will be greatly benefited if the teacher's tenure is respected by school authorities. That being

true, we must certainly regard as unethical a procedure on the part of any teacher that would tend to weaken another teacher's tenure of office. It is ethically unprofessional for one teacher to underbid another in attempting to secure a position. This practice is rare and usually ineffective in the larger school systems, but it is known to have been prevalent at times in rural communities.

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